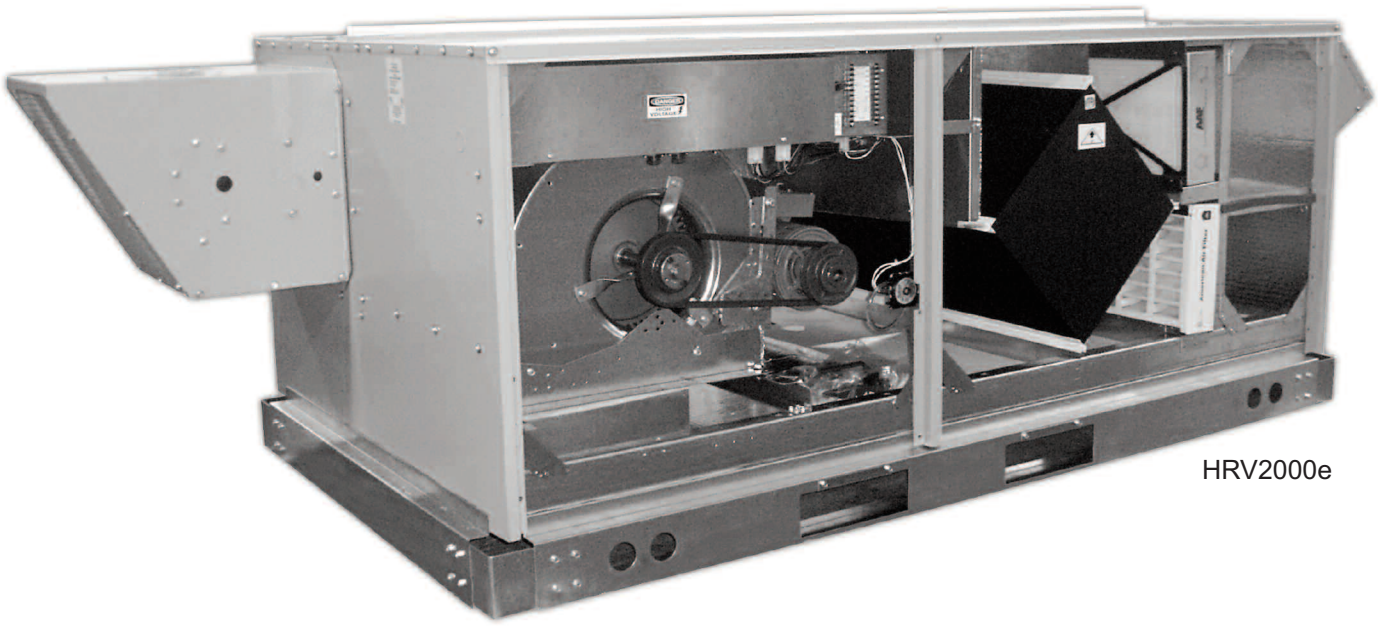
VENMAR CES INC.
COST-EFFECTIVE COMMERCIAL VENTILATION™

# Product Data Manual

## HRV600i • HRV700i • HRV1200i • HRV2000i/e



HRV2000e

AHRI CERTIFIED™
www.ahridirectory.org
Air-to-Air ERV
AHRI Standard 1060
Energy Recovery COMPONENT is certified. Actual performance in packaged equipment may vary.

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**Due to ongoing research and development, Venmar CES Inc. reserves the right to modify specifications and dimensions without prior notice.**

# Physical Data - Nomenclature Options

| | INDOOR UNITS | | | | OUTDOOR UNITS |
|---|---|---|---|---|---|
| **UNIT NOMENCLATURE OPTIONS** | **600i** | **700i** | **1200i** | **2000i** | **2000e** |
| **FROST CONTROL** | | | | | |
| Recirculation | O | O | O | O | O |
| Exhaust only | O | | O | O | O |
| Non defrost | | | | O | O |
| Non defrost, no wall control compatibility | B | B | B | B | B |
| Preheat frost prevention | 1, 2, A | 1, 2, A | 1, 2, A | 1, 2, A | |
| **VOLTAGE/SPEED** | | | | | |
| 208-230 VAC/1/60 - 1 Speed | | | | B/3 | B/3 |
| 208-230 VAC/3/60 - 1 Speed | | | | O | O |
| 460 VAC/3/60 - 1 Speed | | | | O | O |
| 575 VAC/3/60 - 1 Speed | | | | O | O |
| 120 VAC/1/60 - 2 Speed | B | B | B | | |
| 208-230 VAC/1/60 - 2 Speed | | | | O/3 | O/3 |
| **ENERGY RECOVERY** | | | | | |
| Polypropylene core | B | B | B | B | B |
| Aluminum core | O | | O | O | O |
| HM core | O | | O | O | O |
| **INTERNAL PROTECTION** | | | | | |
| 1" insulation, single wall (R4) | B | B | B | B | B |
| 1" insulation, double wall (R4) | | | | O | O |
| Corrosion resistant R4, double wall (1") | | | | O | O |
| **SENSOR CONTACTS** | | | | | |
| Dirty filter contacts | | | | O | O |
| No contacts | B | B | B | B | B |
| **EXTERNAL FINISH** | | | | | |
| Galvanized (non painted) | | | | B | |
| Grey prepaint (galvanized) | | | | | B |
| White prepaint (galvanized) | B | | B | O | |
| Corrosion resistant package | | B | O | O | O |
| **OUTSIDE AIR DAMPER** | | | | | |
| Non insulated motorized | | | | | O |
| Insulated motorized | | O | | O | O |
| Insulated spring return | | | | O | O |
| No damper | | | | B | B |
| **EXHAUST AIR DAMPER** | | | | | |
| Backdraft | A | A | A | A | O |
| Non insulated motorized | | | | | O |
| Insulated motorized | | | | | O |
| No damper | | | | | B |
| **DOOR FASTENERS** | | | | | |
| Standard blower/filter access | | | | B | B |
| Deluxe blower/filter access | | | | | O |
| Deluxe filter doors only | | | | O | |
| **EXTERNAL DISCONNECT** | | | | | |
| Fused disconnect switch | | | | O | O |
| Non fused disconnect switch | | | | O | O |
| No disconnect switch | B | B | B | B | B |

***Legend:***

B - Included in base unit
O - Optional
A - Accessory

1 - Call Factory for more information
2 - Duct-mounted
3 - Requires a neutral wire to be run with L1 & L2

# Physical Data - Nomenclature Options

| | INDOOR UNITS | | | | OUTDOOR UNITS |
|---|---|---|---|---|---|
| **UNIT NOMENCLATURE OPTIONS** | **600i** | **700i** | **1200i** | **2000i** | **2000e** |
| **HOODS** | | | | | |
| Intake/exhaust hoods | | | | | O |
| No hoods | B | B | B | B | B |
| **SUPPLY DISCHARGE** | | | | | |
| End supply discharge | B | B | B | B | O |
| Down supply discharge | | | | | B |
| **RETURN AIR** | | | | | |
| End return air inlet | B | B | B | B | O |
| Bottom return air inlet | | | | | B |
| **FILTERS** | | | | | |
| Supply AL mesh pre-filter | | | | | O |
| Supply MEF (30%) DSE | O | O | O | B | B |
| Supply HEF (80 - 85%) DSE | | | | O | O |
| Exhaust MEF (30%) DSE | | | | B | B |
| Supply washable foam 20ppm | B | B | B | | |
| Exhaust washable foam 20ppm | B | B | B | | |
| **ACCESS DOOR** | | | | | |
| Standard door | B | B | B | B | B |
| Reverse door | O | | O | O | |
| **LOW SPEED** | | | | | |
| Reduced low speed | O | | O | | |
| Normal low speed | B | B | B | O | O |

***Legend:***
B - Included in base unit
O - Optional

## FANS

| Model Name | HRV600i | HRV700i | HRV1200i | HRV2000i | HRV2000e |
|---|---|---|---|---|---|
| **Supply Type** | Direct drive | Direct drive | Direct drive | Belt drive | Belt drive |
| **Wheel Type** | Forward curved | Forward curved | Forward curved | Forward curved | Forward curved |
| **Wheel Size (Inches)** | 7Ø x 6 | 9Ø x 7 | 7Ø x 6 (two) | 12Ø x 7 | 12Ø x 7 |
| **Wheel Size [mm]** | 178Ø x 152 | 229Ø x 178 | 178Ø x 152 | 305Ø x 178 | 305Ø x 178 |
| **Bearing** | Sleeve Direct drive | Sleeve Direct drive | Sleeve Direct drive | Ball sealed Resilient rings | Ball sealed Resilient rings |
| **Housing** | Cold rolled | Cold rolled | Cold rolled | Cold rolled | Cold rolled |
| **Shaft [mm]** | 1/2" [13] | 1/2" [13] | 1/2" [13] keyed | 1" [25] keyed | 1" [25] keyed |
| **Exhaust Type** | Direct drive | Direct drive | Direct drive | Belt drive | Belt drive |
| **Wheel Type** | Forward curved | Forward curved | Forward curved | Forward curved | Forward curved |
| **Wheel Size (Inches)** | 7Ø x 6 | 9Ø x 7 | 7Ø x 6 | 12Ø x 7 | 12Ø x 9 |
| **Wheel Size [mm]** | 178Ø x 152 | 229Ø x 178 | 178Ø x 152 | 305Ø x 178 | 305Ø x 229 |
| **Bearing** | Sleeve Direct drive | Sleeve Direct drive | Sleeve Direct drive | Ball sealed Resilient rings | Ball sealed Resilient rings |
| **Housing** | Cold rolled | Cold rolled | Cold rolled | Cold rolled | Cold rolled |
| **Shaft [mm]** | 1/2" [13] | 1/2" [13] | 1/2" [13] keyed | 1" [25] keyed | 1" [25] keyed |

## HEAT RECOVERY MODULE

| Model Name | HRV600i | HRV700i | HRV1200i | HRV2000i | HRV2000e |
|---|---|---|---|---|---|
| **Type** | Flat plate | Flat plate | Flat plate | Flat plate | Flat plate |
| **Size (Inches)** | 12 x 12 x 26 | 23 x 23 x 19 | 12 x 12 x 39 | 15 x 15 x 46 | 15 x 15 x 46 |
| **Size [mm]** | [305 x 305 x 660] | [584 x 584 x 483] | [305 x 305 x 991] | [381 x 381 x 1168] | [381 x 381 x 1168] |
| **Flat Plate Material** | Polypropylene, Aluminum or HM | Polypropylene | Polypropylene, Aluminum or HM | Polypropylene, Aluminum or HM | Polypropylene, Aluminum or HM |
| **Flat Plate Performance** | Page 6 | Page 7 | Page 8 | Page 9 | Page 9 |

## FILTERS

| Model Name | HRV600i | HRV700i | HRV1200i | HRV2000i | HRV2000e |
|---|---|---|---|---|---|
| **Type (Primary)** | Washable foam | Washable foam | Washable foam | MEF | MEF |
| **Size (Inches)** | 13 x 11 x 1 | 22.25 x 19 x 1 | 13 x 11 x 1 | 12 x 24 x 4 | 12 x 24 x 4 |
| **Size [mm]** | [330 x 279 x 25] | [572 x 483 x 25] | [330 x 279 x 25] | [305 x 610 x 102] | [305 x 610 x 102] |
| **Number Per Airstream** | 2 | 1 (Supply) | 3 | 2 | 2 |
| **Type (Secondary)** | MEF | MEF | MEF | HEF | HEF |
| **Size (Inches)** | 13 x 11.25 x 2 | 22.625 x 19.25 x 1.75 | 13 x 11.25 x 2 | 12 x 24 x 4 | 12 x 24 x 4 |
| **Size [mm]** | [330 x 286 x 51] | [575 x 489 x 51] | [330 x 286 x 51] | [305 x 610 x 102] | [305 x 610 x 102] |
| **Number Per Airstream** | 2 | 1 | 3 | 2 | 2 |

## WEIGHT (WITH RECIRCULATION DEFROST)

| Model Name | HRV600i | HRV700i | HRV1200i | HRV2000i | HRV2000e |
|---|---|---|---|---|---|
| **Net Core Weight Maximum** | | | | | |
| **Polypropylene Core** | 197 lbs [90kg] | 210 lbs [95kg] | 247 lbs [112kg] | 700 lbs [318kg] | 730 lbs [332kg] |
| **Aluminum Core** | 204 lbs [93kg] | N/A | 257 lbs [117kg] | 730 lbs [332kg] | 760 lbs [345kg] |
| **HM Core** | 208 lbs [95kg] | N/A | 264 lbs [120kg] | 730 lbs [332kg] | 760 lbs [345kg] |
| **Shipping Weight** | add 40 lbs [18kg] | 250 lbs [114kg] | add 40 lbs [18kg] | add 50 lbs [23kg] | add 30 lbs [14kg] |

## WEIGHT (WITH EXHAUST ONLY DEFROST)

| Model Name | HRV600i | HRV700i | HRV1200i | HRV2000i | HRV2000e |
|---|---|---|---|---|---|
| **Net Core Weight Maximum** | | | | | |
| **Polypropylene Core** | 148 lbs [67kg] | N/A | 186 lbs [85kg] | 700 lbs [318kg] | 730 lbs [332kg] |
| **Aluminum Core** | 155 lbs [70kg] | N/A | 196 lbs [89kg] | 730 lbs [332kg] | 760 lbs [345kg] |
| **HM Core** | 159 lbs [72kg] | N/A | 203 lbs [92kg] | 730 lbs [332kg] | 760 lbs [345kg] |
| **Shipping Weight** | add 40 lbs [18kg] | N/A | add 40 lbs [18kg] | add 50 lbs [23kg] | add 30 lbs [14kg] |

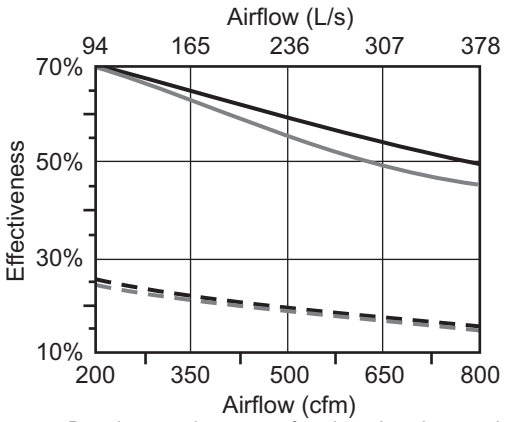
## UNIT AIRFLOW TABLE (CFM X 100)

| Unit | 4 | 6 | 8 | 10 | 12 | 14 | 16 | 18 | 20 | 22 | 24 | 26 | 28 | 30 | 32 | 34 | 36 | 38 | 40 | 42 | 44 | 46 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **HRV600i** | | | | | | | | | | | | | | | | | | | | | | |
| **HRV700i** | | | | | | | | | | | | | | | | | | | | | | |
| **HRV1200i** | | | | | | | | | | | | | | | | | | | | | | |
| **HRV2000i/e** | | | | | | | | | | | | | | | | | | | | | | |

For airflows higher than 2800 cfm, see the HRV3000i/e to HRV10000i/e PDM (PN 216004) or the EnergyPack® PDM (PN 500003428) in your Venmar CES Binder/Catalog or online at www.venmarces.com.

# Effectiveness Performance Data

## HRV600i - POLYPROPYLENE AND ALUMINUM CORES




Based on equal amounts of outdoor air and return air.

Total Effectiveness (Cooling)
Sensible Effectiveness (Heating)
n/a Latent Effectiveness (Heating)

Ratings outside the scope of the AHRI Energy Recovery Ventilation Certification Program.

### Model Number: PHE500-13.1H-12S-0.11

### Model Number: AHE500-13.1H-12S-0.14T

Type: Plate (Plate) Nominal Airflow: 200 (200) scfm
Pressure Drop: 0.22 (0.09) inches

**Leakage Ratings**

| | Pressure Differential | EATR | OACF | Purge Angle or Setting |
|---|---|---|---|---|
| Test 1: | -5.00 (-3.00) inches | 0% (0%) | 1.00 (1.00) | N/A (N/A) |
| Test 2: | 0.00 (0.00) inches | 0% (0%) | 1.00 (1.00) | N/A (N/A) |
| Test 3: | 5.00 (3.00) inches | 0% (0%) | 1.00 (1.00) | N/A (N/A) |

**Thermal Effectiveness Ratings at 0" Pressure Differential**

| | Sensible | Latent | Total |
|---|---|---|---|
| 100% Airflow Heating Condition: | 64% (60%) | 0% (0%) | 42% (39%) |
| 75% Airflow Heating Condition: | 66% (66%) | 0% (0%) | 44% (43%) |
| 100% Airflow Cooling Condition: | 55% (54%) | 0% (0%) | 21% (21%) |
| 75% Airflow Cooling Condition: | 60% (59%) | 0% (0%) | 23% (23%) |
| | **Net Sensible** | **Net Latent** | **Net Total** |
| 100% Airflow Heating Condition: | 64% (60%) | 0% (0%) | 42% (39%) |
| 75% Airflow Heating Condition: | 66% (66%) | 0% (0%) | 44% (43%) |
| 100% Airflow Cooling Condition: | 55% (54%) | 0% (0%) | 21% (21%) |
| 75% Airflow Cooling Condition: | 60% (59%) | 0% (0%) | 23% (23%) |

AHRI CERTIFIED™

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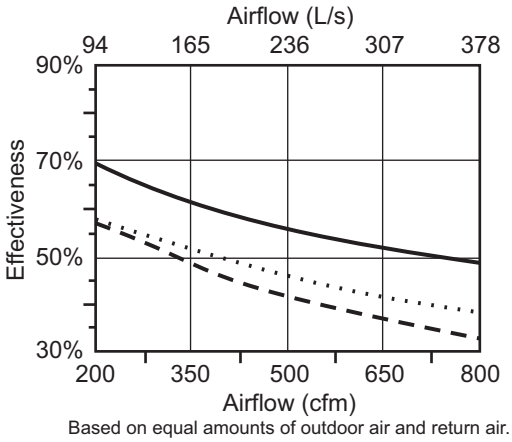
## HRV600i - HM CORE




Based on equal amounts of outdoor air and return air.

Total Effectiveness (Cooling)
Sensible Effectiveness (Heating)
Latent Effectiveness (Heating)

Ratings outside the scope of the AHRI Energy Recovery Ventilation Certification Program.

### Model Number: EPE5000-13H-12S-0.1

**Type:** Plate **Nominal Airflow:** 200 scfm
**Pressure Drop:** 0.28 inches

**Leakage Ratings**

| | Pressure Differential | EATR | OACF | Purge Angle or Setting |
|---|---|---|---|---|
| Test 1: | -0.50 inches | 2.0% | 1.00 | N/A |
| Test 2: | 0.00 inches | 0.5% | 1.01 | N/A |
| Test 3: | 0.50 inches | 0.0% | 1.02 | N/A |

**Thermal Effectiveness Ratings at 0" Pressure Differential**

| | Sensible | Latent | Total |
|---|---|---|---|
| 100% Airflow Heating Condition: | 60% | 50% | 56% |
| 75% Airflow Heating Condition: | 65% | 55% | 61% |
| 100% Airflow Cooling Condition: | 60% | 38% | 47% |
| 75% Airflow Cooling Condition: | 65% | 45% | 53% |
| | **Net Sensible** | **Net Latent** | **Net Total** |
| 100% Airflow Heating Condition: | 60% | 50% | 56% |
| 75% Airflow Heating Condition: | 65% | 55% | 61% |
| 100% Airflow Cooling Condition: | 60% | 38% | 47% |
| 75% Airflow Cooling Condition: | 65% | 45% | 53% |

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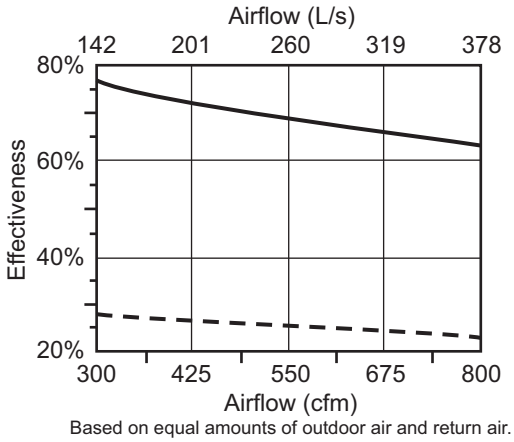
# Effectiveness Performance Data

## HRV700i - POLYPROPYLENE CORE




Based on equal amounts of outdoor air and return air.

Total Effectiveness (Cooling)
Sensible Effectiveness (Heating)
n/a Latent Effectiveness (Heating)

Ratings outside the scope of the
AHRI Energy Recovery Ventilation Certification Program.

### Model Number: PHE500-19H-23S-0.12

Type: Plate
Nominal Airflow: 400 scfm
Pressure Drop: 0.25 inches

**Leakage Ratings**

| | Pressure Differential | EATR | OACF | Purge Angle or Setting |
|---|---|---|---|---|
| Test 1: | -5.00 inches | 0% | 1.00 | N/A |
| Test 2: | 0.00 inches | 0% | 1.00 | N/A |
| Test 3: | 5.00 inches | 0% | 1.00 | N/A |

**Thermal Effectiveness Ratings at 0" Pressure Differential**

| | Sensible | Latent | Total |
|---|---|---|---|
| 100% Airflow Heating Condition: | 76% | 0% | 50% |
| 75% Airflow Heating Condition: | 79% | 0% | 52% |
| 100% Airflow Cooling Condition: | 71% | 0% | 27% |
| 75% Airflow Cooling Condition: | 74% | 0% | 29% |

| | Net Sensible | Net Latent | Net Total |
|---|---|---|---|
| 100% Airflow Heating Condition: | 76% | 0% | 50% |
| 75% Airflow Heating Condition: | 79% | 0% | 52% |
| 100% Airflow Cooling Condition: | 71% | 0% | 27% |
| 75% Airflow Cooling Condition: | 74% | 0% | 29% |

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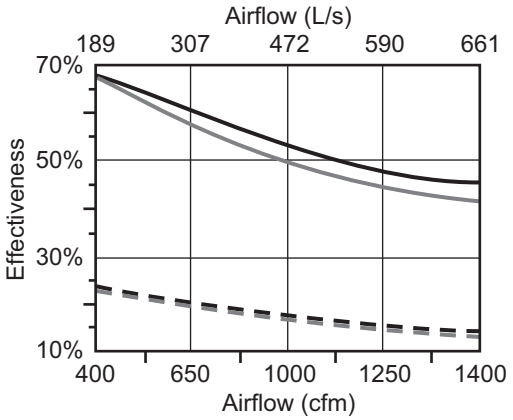
# Effectiveness Performance Data

## HRV1200i - POLYPROPYLENE AND ALUMINUM CORES




Based on equal amounts of outdoor air and return air.

- - - Total Effectiveness (Cooling)
——— Sensible Effectiveness (Heating)
n/a Latent Effectiveness (Heating)

Ratings outside the scope of the AHRI Energy Recovery Ventilation Certification Program.

### Model Number: PHE500-13.1H-12S-0.11

### Model Number: AHE500-13.1H-12S-0.14T

Type: Plate (Plate) Nominal Airflow: 200 (200) scfm
Pressure Drop: 0.22 (0.09) inches

**Leakage Ratings**

| | Pressure Differential | EATR | OACF | Purge Angle or Setting |
|---|---|---|---|---|
| Test 1: | -5.00 (-3.00) inches | 0% (0%) | 1.00 (1.00) | N/A (N/A) |
| Test 2: | 0.00 (0.00) inches | 0% (0%) | 1.00 (1.00) | N/A (N/A) |
| Test 3: | 5.00 (3.00) inches | 0% (0%) | 1.00 (1.00) | N/A (N/A) |

**Thermal Effectiveness Ratings at 0" Pressure Differential**

| | Sensible | Latent | Total |
|---|---|---|---|
| 100% Airflow Heating Condition: | 64% (60%) | 0% (0%) | 42% (39%) |
| 75% Airflow Heating Condition: | 66% (66%) | 0% (0%) | 44% (43%) |
| 100% Airflow Cooling Condition: | 55% (54%) | 0% (0%) | 21% (21%) |
| 75% Airflow Cooling Condition: | 60% (59%) | 0% (0%) | 23% (23%) |
| | **Net Sensible** | **Net Latent** | **Net Total** |
| 100% Airflow Heating Condition: | 64% (60%) | 0% (0%) | 42% (39%) |
| 75% Airflow Heating Condition: | 66% (66%) | 0% (0%) | 44% (43%) |
| 100% Airflow Cooling Condition: | 55% (54%) | 0% (0%) | 21% (21%) |
| 75% Airflow Cooling Condition: | 60% (59%) | 0% (0%) | 23% (23%) |

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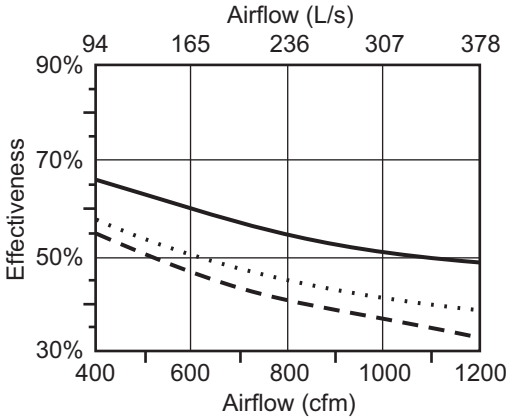
## HRV1200I - HM CORE




Based on equal amounts of outdoor air and return air.

- - - Total Effectiveness (Cooling)
——— Sensible Effectiveness (Heating)
····· Latent Effectiveness (Heating)

Ratings outside the scope of the AHRI Energy Recovery Ventilation Certification Program.

### Model Number: EPE5000-13H-12S-0.1

**Type:** Plate **Nominal Airflow:** 200 scfm
**Pressure Drop:** 0.28 inches

**Leakage Ratings**

| | Pressure Differential | EATR | OACF | Purge Angle or Setting |
|---|---|---|---|---|
| Test 1: | -0.50 inches | 2.0% | 1.00 | N/A |
| Test 2: | 0.00 inches | 0.5% | 1.01 | N/A |
| Test 3: | 0.50 inches | 0.0% | 1.02 | N/A |

**Thermal Effectiveness Ratings at 0" Pressure Differential**

| | Sensible | Latent | Total |
|---|---|---|---|
| 100% Airflow Heating Condition: | 60% | 50% | 56% |
| 75% Airflow Heating Condition: | 65% | 55% | 61% |
| 100% Airflow Cooling Condition: | 60% | 38% | 47% |
| 75% Airflow Cooling Condition: | 65% | 45% | 53% |
| | **Net Sensible** | **Net Latent** | **Net Total** |
| 100% Airflow Heating Condition: | 60% | 50% | 56% |
| 75% Airflow Heating Condition: | 65% | 55% | 61% |
| 100% Airflow Cooling Condition: | 60% | 38% | 47% |
| 75% Airflow Cooling Condition: | 65% | 45% | 53% |

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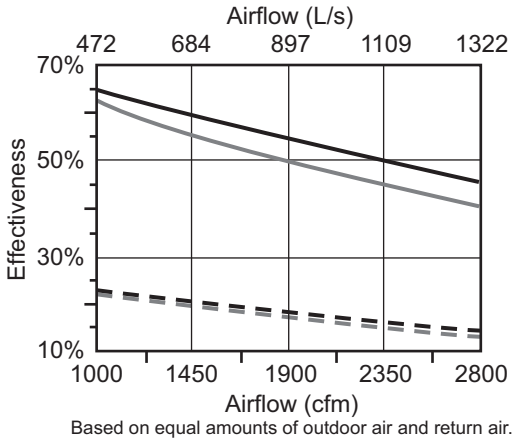
# Effectiveness Performance Data

## HRV2000i/e - POLYPROPYLENE AND ALUMINUM CORES




Based on equal amounts of outdoor air and return air.

Total Effectiveness (Cooling)
Sensible Effectiveness (Heating)
n/a Latent Effectiveness (Heating)

Ratings outside the scope of the AHRI Energy Recovery Ventilation Certification Program.

### Model Number: PHE500-15.4H-15.3S-0.11

### Model Number: AHE500-15.4H-15S-0.14

Type: Plate (Plate) Nominal Airflow: 530 (530) scfm
Pressure Drop: 0.86 (0.30) inches

**Leakage Ratings**

| | Pressure Differential | EATR | OACF | Purge Angle or Setting |
|---|---|---|---|---|
| Test 1: | -5.00 (-3.00) inches | 0% (0%) | 1.00 (1.00) | N/A (N/A) |
| Test 2: | 0.00 (0.00) inches | 0% (0%) | 1.00 (1.00) | N/A (N/A) |
| Test 3: | 5.00 (3.00) inches | 0% (0%) | 1.00 (1.00) | N/A (N/A) |

**Thermal Effectiveness Ratings at 0" Pressure Differential**

| | Sensible | Latent | Total |
|---|---|---|---|
| 100% Airflow Heating Condition: | 58% (52%) | 0% (0%) | 38% (34%) |
| 75% Airflow Heating Condition: | 63% (58%) | 0% (0%) | 42% (38%) |
| 100% Airflow Cooling Condition: | 49% (46%) | 0% (0%) | 19% (18%) |
| 75% Airflow Cooling Condition: | 55% (52%) | 0% (0%) | 21% (20%) |
| | **Net Sensible** | **Net Latent** | **Net Total** |
| 100% Airflow Heating Condition: | 58% (52%) | 0% (0%) | 38% (34%) |
| 75% Airflow Heating Condition: | 63% (58%) | 0% (0%) | 42% (38%) |
| 100% Airflow Cooling Condition: | 49% (46%) | 0% (0%) | 19% (18%) |
| 75% Airflow Cooling Condition: | 55% (52%) | 0% (0%) | 21% (20%) |

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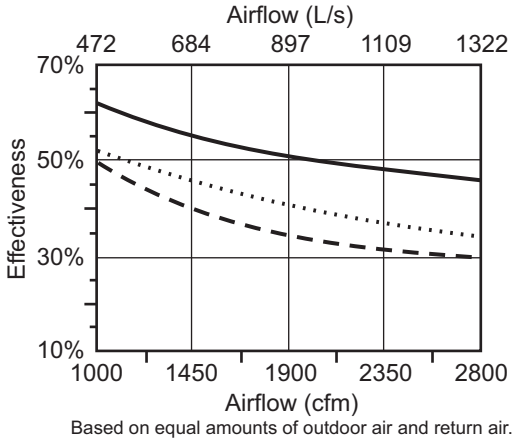
## HRV2000i/e - HM CORE




Based on equal amounts of outdoor air and return air.

Total Effectiveness (Cooling)
Sensible Effectiveness (Heating)
Latent Effectiveness (Heating)

Ratings outside the scope of the AHRI Energy Recovery Ventilation Certification Program.

### Model Number: EPE5000-15.3H-15S-0.1

**Type:** Plate **Nominal Airflow:** 530 scfm
**Pressure Drop:** 0.75 inches

**Leakage Ratings**

| | Pressure Differential | EATR | OACF | Purge Angle or Setting |
|---|---|---|---|---|
| Test 1: | -0.50 inches | 1.0% | 1.00 | N/A |
| Test 2: | 0.00 inches | 0.5% | 1.01 | N/A |
| Test 3: | 0.50 inches | 0.0% | 1.01 | N/A |

**Thermal Effectiveness Ratings at 0" Pressure Differential**

| | Sensible | Latent | Total |
|---|---|---|---|
| 100% Airflow Heating Condition: | 54% | 44% | 51% |
| 75% Airflow Heating Condition: | 59% | 49% | 55% |
| 100% Airflow Cooling Condition: | 54% | 30% | 39% |
| 75% Airflow Cooling Condition: | 59% | 37% | 45% |
| | **Net Sensible** | **Net Latent** | **Net Total** |
| 100% Airflow Heating Condition: | 54% | 44% | 51% |
| 75% Airflow Heating Condition: | 59% | 49% | 55% |
| 100% Airflow Cooling Condition: | 54% | 30% | 39% |
| 75% Airflow Cooling Condition: | 59% | 37% | 45% |

AHRI CERTIFIED™ Energy recovery component is certified by AHRI to AHRI Standard 1060. Actual performance in packaged equipment may vary.

## HRV600i AIRFLOW (CFM)

| ESP | Low | Reduced Low | Medium | Reduced Medium | High |
|---|---|---|---|---|---|
| 0.00 | 650 | 474 | 734 | 574 | 791 |
| 0.10 | 635 | 456 | 707 | 569 | 764 |
| 0.20 | 611 | 447 | 686 | 557 | 735 |
| 0.30 | 595 | 442 | 657 | 546 | 705 |
| 0.40 | 570 | 428 | 635 | 528 | 682 |
| 0.50 | 544 | 418 | 603 | 510 | 650 |
| 0.60 | 517 | 403 | 579 | 478 | 625 |
| 0.70 | 488 | 382 | 544 | 452 | 589 |
| 0.80 | 447 | 354 | 507 | 416 | 542 |
| 0.90 | 322 | 311 | 447 | 376 | 491 |
| 1.00 | 256 | 253 | 291 | 332 | 322 |

**NOTE:** Medium tap can be installed by exchanging the low tap for medium (see wiring diagram). The standard unit has only two speeds available to the user. Reduced low and reduced medium speeds must be ordered as options.

## HRV1200i AIRFLOW (CFM)

| ESP | Low | Reduced Low | Medium | Reduced Medium | High |
|---|---|---|---|---|---|
| 0.00 | 1110 | N/A | 1195 | 936 | 1254 |
| 0.10 | 1080 | N/A | 1157 | 911 | 1214 |
| 0.20 | 1029 | 775 | 1105 | 894 | 1158 |
| 0.30 | 987 | 755 | 1064 | 885 | 1114 |
| 0.40 | 942 | 745 | 1007 | 868 | 1069 |
| 0.50 | 896 | 714 | 963 | 832 | 1022 |
| 0.60 | 834 | 670 | 900 | 785 | 955 |
| 0.70 | 767 | 647 | 832 | 725 | 883 |
| 0.80 | 695 | 586 | 759 | 670 | 806 |
| 0.90 | 596 | 518 | 656 | 599 | 673 |
| 1.00 | 500 | 422 | 534 | 503 | 568 |

**NOTE:** Medium tap can be installed by exchanging the low tap for medium (see wiring diagram). The standard unit has only two speeds available to the user. Reduced low and reduced medium speeds must be ordered as options.

## HRV700i AIRFLOW (CFM)

| ESP | Low | High |
|---|---|---|
| 0.00 | 430 | 869 |
| 0.10 | 420 | 817 |
| 0.20 | 416 | 767 |
| 0.30 | 395 | 692 |
| 0.40 | 356 | 609 |
| 0.50 | 300 | 531 |
| 0.60 | 242 | 441 |
| 0.70 | 174 | 296 |
| 0.80 | 109 | 190 |
| 0.90 | N/A | 118 |

## PRESSURE DROP FOR H.E. FILTERS

| Airflow (cfm) | Resistance (in. wg.) |
|---|---|
| 800 | 0.16 |
| 900 | 0.19 |
| 1000 | 0.22 |
| 1100 | 0.25 |
| 1200 | 0.28 |
| 1300 | 0.30 |
| 1400 | 0.33 |
| 1500 | 0.36 |
| 1600 | 0.40 |
| 1700 | 0.45 |
| 1800 | 0.49 |
| 1900 | 0.54 |
| 2000 | 0.59 |
| 2100 | 0.63 |
| 2200 | 0.68 |
| 2300 | 0.72 |
| 2400 | 0.77 |
| 2500 | 0.81 |
| 2600 | 0.85 |
| 2700 | 0.90 |
| 2800 | 0.95 |

## PRESSURE DROP FOR EXHAUST HOOD WITH DAMPER

| Airflow (cfm) | Resistance (in. wg.) |
|---|---|
| 1200 | 0.30 |
| 1300 | 0.35 |
| 1400 | 0.40 |
| 1500 | 0.46 |
| 1600 | 0.51 |
| 1700 | 0.56 |
| 1800 | 0.61 |
| 1900 | 0.68 |
| 2000 | 0.71 |
| 2100 | 0.76 |
| 2200 | 0.81 |
| 2300 | 0.86 |
| 2400 | 0.91 |
| 2500 | 0.96 |
| 2600 | 1.01 |
| 2700 | 1.06 |
| 2800 | 1.11 |

## PRESSURE DROP FOR EXHAUST HOOD WITHOUT DAMPER

| Airflow (cfm) | Resistance (in. wg.) |
|---|---|
| 1200 | 0.00 |
| 1300 | 0.04 |
| 1400 | 0.07 |
| 1500 | 0.11 |
| 1600 | 0.14 |
| 1700 | 0.17 |
| 1800 | 0.21 |
| 1900 | 0.24 |
| 2000 | 0.28 |
| 2100 | 0.31 |
| 2200 | 0.35 |
| 2300 | 0.38 |
| 2400 | 0.42 |
| 2500 | 0.45 |
| 2600 | 0.48 |
| 2700 | 0.52 |
| 2800 | 0.55 |

## HRV2000i SUPPLY AND EXHAUST AIRFLOW PERFORMANCE
## HRV2000e SUPPLY AIRFLOW PERFORMANCE

| Airflow | 0.0 | | 0.2 | | 0.4 | | 0.6 | | 0.8 | | 1.0 | | 1.2 | | 1.4 | | 1.6 | | HP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| (cfm) | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | Fan Pulley |
| 1200 | 597 | 0.19 | 695 | 0.24 | 784 | 0.30 | 867 | 0.36 | 944 | 0.42 | 1018 | 0.48 | 1090 | 0.55 | 1158 | 0.61 | 1222 | 0.68 | **1/2** |
| 1300 | 637 | 0.24 | 729 | 0.29 | 813 | 0.35 | 892 | 0.42 | 967 | 0.48 | 1037 | 0.55 | 1106 | 0.62 | 1172 | 0.69 | 1235 | 0.76 | |
| 1400 | 676 | 0.28 | 762 | 0.34 | 842 | 0.40 | 917 | 0.47 | 989 | 0.54 | 1056 | 0.61 | 1121 | 0.69 | 1185 | 0.77 | 1247 | 0.84 | **3/4** |
| 1500 | 713 | 0.34 | 794 | 0.41 | 871 | 0.47 | 942 | 0.54 | 1012 | 0.62 | 1077 | 0.69 | 1140 | 0.77 | 1201 | 0.85 | 1260 | 0.93 | |
| 1600 | 748 | 0.40 | 826 | 0.47 | 899 | 0.54 | 967 | 0.61 | 1034 | 0.69 | 1097 | 0.77 | 1158 | 0.85 | 1217 | 0.93 | 1273 | 1.02 | **1.0** |
| 1700 | 785 | 0.47 | 858 | 0.55 | 928 | 0.62 | 994 | 0.70 | 1058 | 0.78 | 1119 | 0.86 | 1179 | 0.94 | 1236 | 1.03 | 1291 | 1.12 | |
| 1800 | 818 | 0.55 | 889 | 0.62 | 957 | 0.70 | 1020 | 0.78 | 1082 | 0.86 | 1141 | 0.94 | 1199 | 1.03 | 1254 | 1.12 | 1308 | 1.22 | **1.5** |
| 1900 | 853 | 0.63 | 923 | 0.72 | 988 | 0.80 | 1050 | 0.89 | 1109 | 0.97 | 1166 | 1.05 | 1222 | 1.14 | 1276 | 1.18 | 1328 | 1.34 | |
| 2000 | 892 | 0.73 | 957 | 0.81 | 1019 | 0.90 | 1079 | 0.99 | 1136 | 1.07 | 1191 | 1.16 | 1245 | 1.25 | 1297 | 1.23 | 1348 | 1.45 | **2.0** |
| 2100 | 925 | 0.83 | 989 | 0.92 | 1050 | 1.02 | 1107 | 1.11 | 1163 | 1.20 | 1216 | 1.29 | 1269 | 1.38 | 1319 | 1.42 | 1369 | 1.58 | |
| 2200 | 960 | 0.94 | 1021 | 1.03 | 1080 | 1.13 | 1135 | 1.22 | 1189 | 1.32 | 1241 | 1.41 | 1292 | 1.51 | 1341 | 1.61 | 1389 | 1.71 | **3.0** |
| 2300 | 995 | 1.03 | 1054 | 1.16 | 1110 | 1.26 | 1164 | 1.36 | 1216 | 1.46 | 1267 | 1.56 | 1317 | 1.66 | 1364 | 1.76 | 1411 | 1.87 | |
| 2400 | 1029 | 1.19 | 1086 | 1.29 | 1140 | 1.39 | 1193 | 1.49 | 1243 | 1.60 | 1293 | 1.70 | 1341 | 1.80 | 1387 | 1.91 | 1433 | 2.02 | |
| 2500 | 1062 | 1.32 | 1117 | 1.44 | 1170 | 1.54 | 1221 | 1.65 | 1270 | 1.76 | 1319 | 1.86 | 1365 | 1.97 | 1411 | 2.08 | 1456 | 2.19 | |
| 2600 | 1095 | 1.46 | 1148 | 1.58 | 1199 | 1.69 | 1249 | 1.80 | 1297 | 1.91 | 1344 | 2.02 | 1389 | 2.13 | 1434 | 2.25 | 1478 | 2.36 | |
| 2700 | 1129 | 1.62 | 1179 | 1.74 | 1229 | 1.86 | 1278 | 1.98 | 1325 | 2.09 | 1370 | 2.21 | 1415 | 2.32 | 1459 | 2.44 | 1501 | 2.56 | |
| 2800 | 1161 | 1.79 | 1210 | 1.90 | 1259 | 2.03 | 1306 | 2.15 | 1352 | 2.27 | 1396 | 2.39 | 1440 | 2.51 | 1483 | 2.63 | 1524 | 2.75 | |

**IMPORTANT NOTE: Pressure Drop**

When the high efficiency filter option is used, filter pressure drop must be added to the ESP of the system. Added pressure drop values are listed in the "***Pressure Drop For H.E. Filters***" table on the previous page.

## HRV2000e EXHAUST AIRFLOW PERFORMANCE

| Airflow | 0.0 | | 0.2 | | 0.4 | | 0.6 | | 0.8 | | 1.0 | | 1.2 | | 1.4 | | 1.6 | | 1.8 | | 2.0 | | HP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| (cfm) | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | RPM | BHP | Fan Pulley |
| 1200 | 591 | 0.16 | 700 | 0.21 | 805 | 0.27 | 899 | 0.33 | 984 | 0.39 | 1061 | 0.45 | 1133 | 0.52 | 1200 | 0.58 | 1263 | 0.65 | 1322 | 0.72 | 1378 | 0.79 | **1/2** |
| 1300 | 630 | 0.20 | 732 | 0.26 | 829 | 0.32 | 920 | 0.38 | 1004 | 0.45 | 1080 | 0.51 | 1152 | 0.58 | 1218 | 0.65 | 1281 | 0.72 | 1340 | 0.80 | 1396 | 0.87 | |
| 1400 | 667 | 0.24 | 763 | 0.30 | 853 | 0.36 | 941 | 0.43 | 1023 | 0.50 | 1099 | 0.57 | 1170 | 0.64 | 1235 | 0.72 | 1298 | 0.79 | 1357 | 0.87 | 1413 | 0.95 | **3/4** |
| 1500 | 701 | 0.29 | 793 | 0.36 | 878 | 0.42 | 962 | 0.49 | 1041 | 0.57 | 1116 | 0.64 | 1186 | 0.71 | 1251 | 0.80 | 1313 | 0.87 | 1372 | 0.95 | 1428 | 1.04 | |
| 1600 | 734 | 0.34 | 822 | 0.41 | 903 | 0.48 | 982 | 0.55 | 1059 | 0.63 | 1132 | 0.70 | 1201 | 0.78 | 1266 | 0.87 | 1328 | 0.95 | 1386 | 1.03 | 1442 | 1.12 | **1.0** |
| 1700 | 769 | 0.40 | 851 | 0.48 | 945 | 0.55 | 1004 | 0.62 | 1078 | 0.70 | 1150 | 0.78 | 1217 | 0.87 | 1281 | 0.95 | 1343 | 1.04 | 1401 | 1.13 | 1456 | 1.22 | |
| 1800 | 799 | 0.46 | 880 | 0.54 | 986 | 0.61 | 1026 | 0.69 | 1097 | 0.77 | 1167 | 0.86 | 1233 | 0.95 | 1296 | 1.03 | 1357 | 1.12 | 1415 | 1.22 | 1470 | 1.31 | **1.5** |
| 1900 | 832 | 0.53 | 912 | 0.62 | 999 | 0.70 | 1053 | 0.78 | 1120 | 0.86 | 1187 | 0.95 | 1301 | 1.04 | 1313 | 1.13 | 1373 | 1.23 | 1431 | 1.33 | 1485 | 1.42 | |
| 2000 | 868 | 0.61 | 943 | 0.69 | 1012 | 0.78 | 1079 | 0.86 | 1142 | 0.95 | 1206 | 1.04 | 1369 | 1.13 | 1330 | 1.23 | 1389 | 1.33 | 1446 | 1.43 | 1500 | 1.53 | **2.0** |
| 2100 | 898 | 0.69 | 972 | 0.79 | 1040 | 0.88 | 1104 | 0.96 | 1166 | 1.05 | 1227 | 1.15 | 1337 | 1.24 | 1347 | 1.34 | 1404 | 1.44 | 1460 | 1.55 | 1514 | 1.65 | |
| 2200 | 931 | 0.79 | 1001 | 0.88 | 1067 | 0.97 | 1129 | 1.06 | 1189 | 1.15 | 1247 | 1.25 | 1305 | 1.35 | 1363 | 1.45 | 1419 | 1.55 | 1474 | 1.66 | 1527 | 1.77 | **3.0** |
| 2300 | 963 | 0.88 | 1030 | 0.99 | 1095 | 1.08 | 1155 | 1.17 | 1214 | 1.27 | 1270 | 1.37 | 1326 | 1.47 | 1381 | 1.58 | 1436 | 1.68 | 1489 | 1.79 | 1542 | 1.91 | |
| 2400 | 994 | 0.99 | 1059 | 1.09 | 1122 | 1.18 | 1181 | 1.28 | 1238 | 1.38 | 1293 | 1.49 | 1346 | 1.59 | 1398 | 1.70 | 1452 | 1.81 | 1504 | 1.92 | 1556 | 2.04 | |
| 2500 | 1024 | 1.10 | 1087 | 1.21 | 1148 | 1.31 | 1206 | 1.41 | 1262 | 1.51 | 1316 | 1.62 | 1367 | 1.73 | 1419 | 1.84 | 1470 | 1.95 | 1520 | 2.07 | 1570 | 2.19 | |
| 2600 | 1053 | 1.22 | 1115 | 1.32 | 1174 | 1.43 | 1231 | 1.54 | 1285 | 1.64 | 1338 | 1.75 | 1388 | 1.86 | 1439 | 1.98 | 1487 | 2.09 | 1535 | 2.21 | 1584 | 2.33 | |
| 2700 | 1085 | 1.35 | 1143 | 1.46 | 1201 | 1.57 | 1256 | 1.68 | 1309 | 1.79 | 1361 | 1.90 | 1410 | 2.02 | 1460 | 2.14 | 1507 | 2.25 | 1554 | 2.37 | 1600 | 2.49 | |
| 2800 | 1113 | 1.48 | 1171 | 1.59 | 1227 | 1.71 | 1281 | 1.82 | 1333 | 1.94 | 1383 | 2.05 | 1432 | 2.17 | 1480 | 2.29 | 1527 | 2.41 | 1572 | 2.53 | 1616 | 2.65 | |

**IMPORTANT NOTE: Pressure Drop**

Pressure drop for exhaust hood (with or without damper) must be added to the ESP of the system. Added pressure drop values are listed in the "***Pressure Drop For Exhaust Hood With Damper***" and "***Pressure Drop For Exhaust Hood Without Damper***" tables on the previous page.

**NOTES:**

Dimensions in [ ] are millimeters

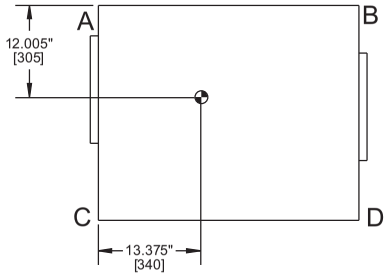
Center of gravity

Direction of airflow

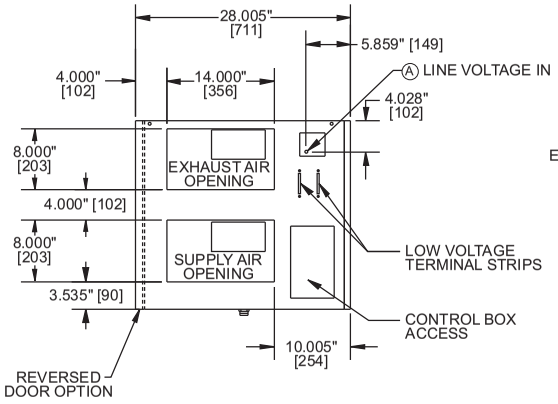
**HRV600i**

| POLY CORE | | | ALUMINUM CORE | | | HM CORE | | |
|---|---|---|---|---|---|---|---|---|
| PTS | LBS | Kg | PTS | LBS | Kg | PTS | LBS | Kg |
| A | 38 | 17 | A | 40 | 18 | A | 41 | 19 |
| B | 25 | 11 | B | 26 | 12 | B | 27 | 12 |
| C | 52 | 24 | C | 55 | 25 | C | 56 | 25 |
| D | 33 | 15 | D | 34 | 15 | D | 35 | 16 |
| TOTAL | 148 | 67 | TOTAL | 155 | 70 | TOTAL | 159 | 72 |

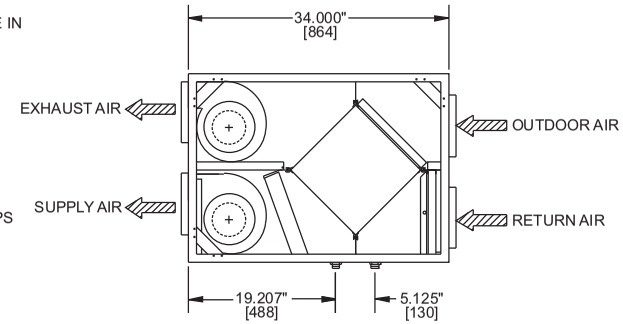
| CONNECTION TABLE | | |
|---|---|---|
| | | CONNECTION SIZES |
| Ⓐ | Line voltage in | 14 gauge wire nut |
| Ⓑ | Condensate drain fitting (2x) | 3/4" mpt |




TOP VIEW

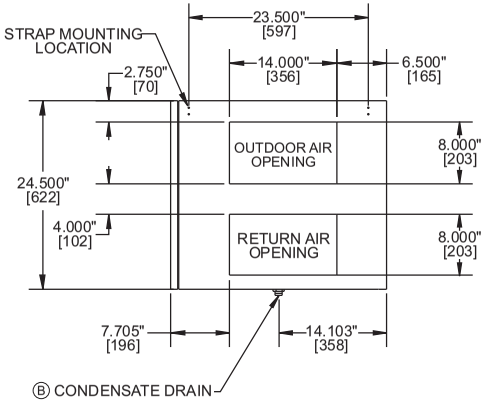



LEFT VIEW




**NOTE:** For units with the reversed door option, interior components will appear as a mirror image of the above diagram.

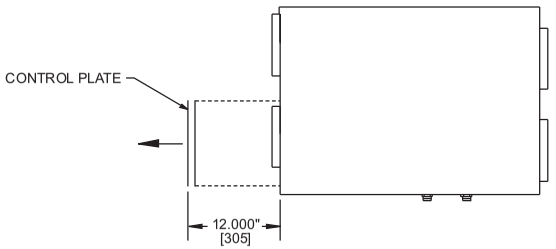
FRONT VIEW




RIGHT VIEW

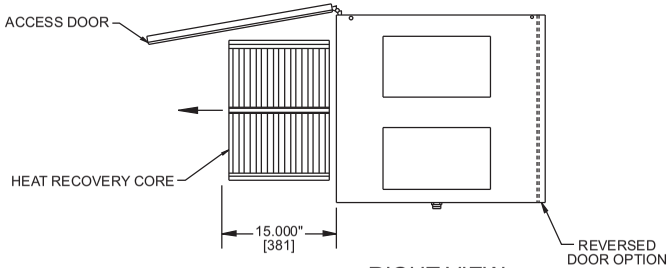
**NOTE:** This model has a damper located on the outdoor intake connection. This damper will close during a frost control cycle or when the unit is placed in the 'OFF' position with power maintained to the unit. This damper is not designed as a backdraft damper and will remain open if power is disconnected from the unit for any reason.

**NOTE:** A minimum of 12.000" [305] clearance from any obstruction is required for removal of the control box.




FRONT VIEW

**NOTE:** A minimum of 15.000" [381] clearance from any obstruction is required for removal of heat recovery cores, fans, etc.
The access door can be removed from the cabinet with only 2.000" [51] of clearance.




RIGHT VIEW

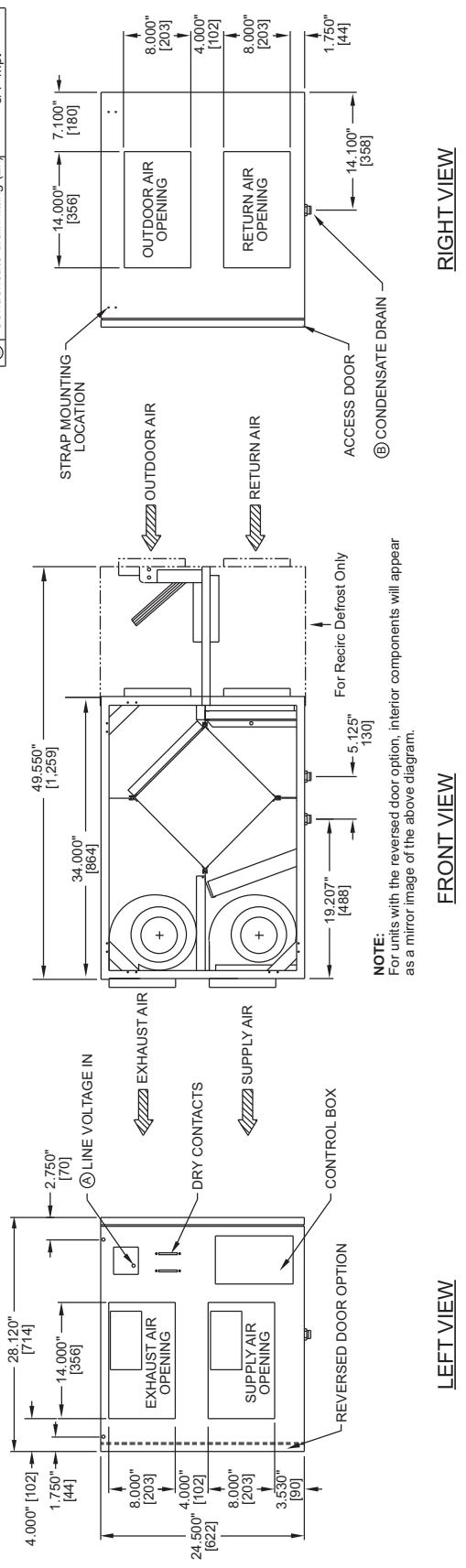
## HRV600i (with Recirculation Defrost)

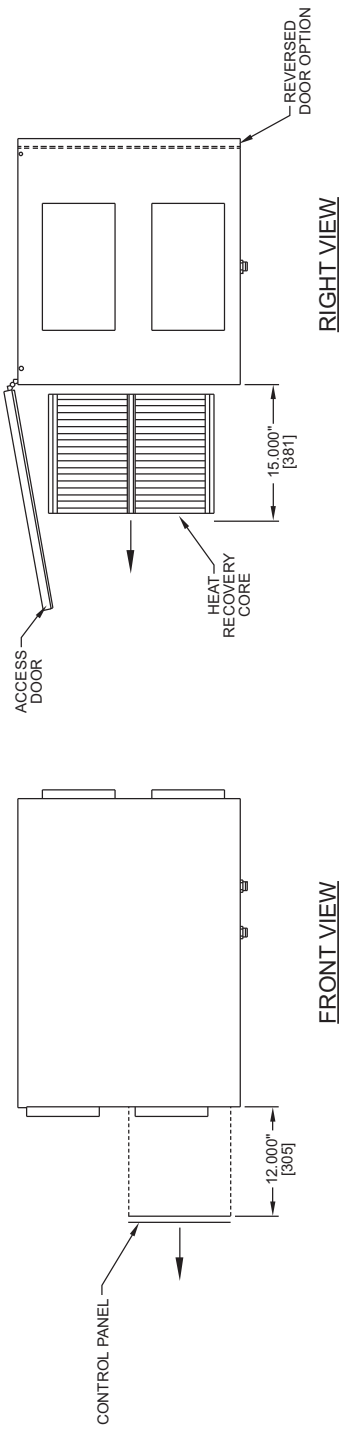
**NOTE:** Dimensions in [ ] are millimeters

***600i (with Recirculation Defrost)***

| | |
|---|---|
| POLY CORE | 197 LBS [90 kg] |
| ALUMINUM CORE | 204 LBS [93 kg] |
| HM CORE | 208 LBS [95 kg] |

| CONNECTION TABLE | CONNECTION SIZES |
|---|---|
| Ⓐ Line voltage in | 14 gauge wire nut |
| Ⓑ Condensate drain fitting (2x) | 3/4" mpt |





REVERSED DOOR OPTION
RIGHT VIEW
NOTE: A minimum of 15.000" [381] clearance from any obstruction is required for removal of heat recovery cores, fans, etc.
The access door can be removed from cabinet with only 2.000" [51] of clearance.
15.000" [381]
ACCESS DOOR
HEAT RECOVERY CORE
FRONT VIEW
NOTE: A minimum of 12.000" [305] clearance from any obstruction is required for removal of the control box.
12.000" [305]
CONTROL PANEL

**NOTES:**

Dimensions in [ ] are millimeters

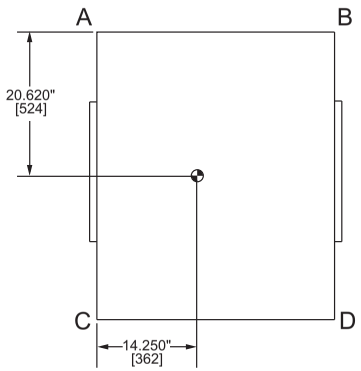
Center of gravity

Direction of airflow

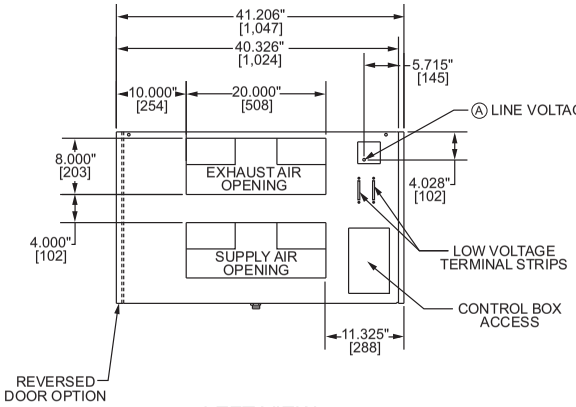
**HRV1200i**

| POLY CORE | | | ALUMINUM CORE | | | HM CORE | | |
|---|---|---|---|---|---|---|---|---|
| PTS | LBS | Kg | PTS | LBS | Kg | PTS | LBS | Kg |
| A | 54 | 25 | A | 57 | 26 | A | 59 | 27 |
| B | 39 | 18 | B | 41 | 19 | B | 43 | 20 |
| C | 54 | 25 | C | 57 | 26 | C | 59 | 27 |
| D | 39 | 18 | D | 41 | 19 | D | 43 | 20 |
| TOTAL | 186 | 86 | TOTAL | 196 | 90 | TOTAL | 204 | 94 |

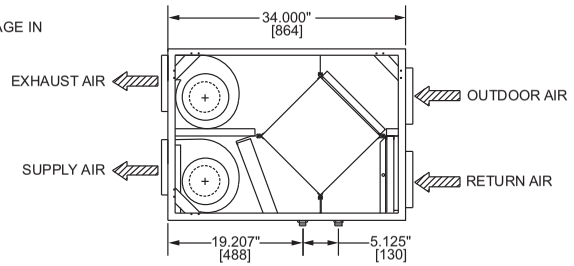
| CONNECTION TABLE | | |
|---|---|---|
| | | CONNECTION SIZES |
| Ⓐ | Line voltage in | 14 gauge wire nut |
| Ⓑ | Condensate drain fitting (2x) | 3/4" mpt |




TOP VIEW

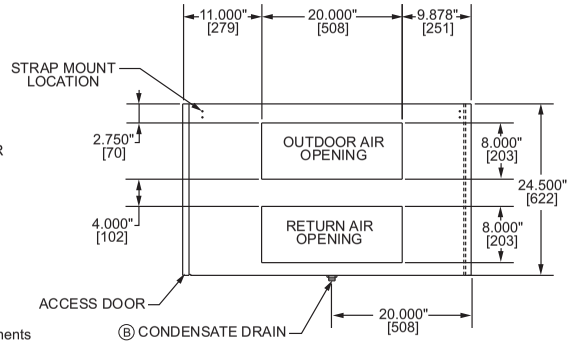



LEFT VIEW




FRONT VIEW

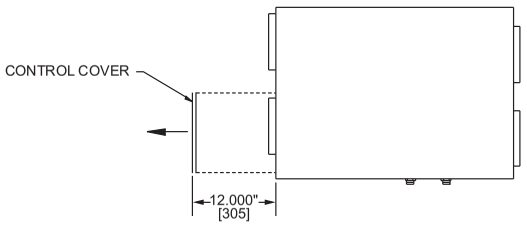
**NOTE:** For units with the reversed door option, interior components will appear as a mirror image of the above diagram.




RIGHT VIEW

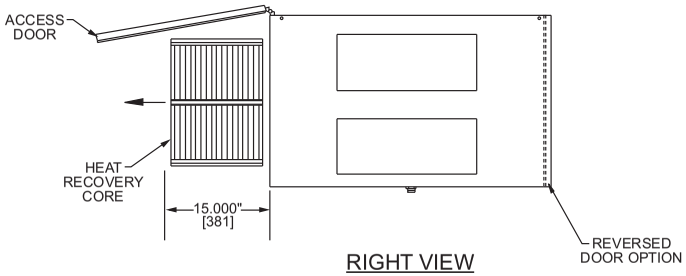
**NOTE:** This model has a damper located on the outdoor intake connection. This damper will close during a frost control cycle or when the unit is placed in the 'OFF' position with power maintained to the unit. This damper is not designed as a backdraft damper and will remain open if power is disconnected from the unit for any reason.

**NOTE:** A minimum of 12.000" [305] clearance from any obstruction is required for removal of the control box.




FRONT VIEW

**NOTE**: A minimum of 15.000" [381] clearance from any obstruction is required for removal of heat recovery cores, fans, etc. The access door can be removed from the cabinet with only 2.000" [51] of clearance.




RIGHT VIEW

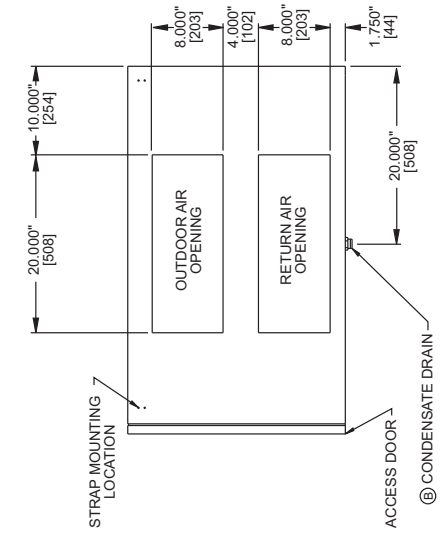
## HRV1200i (with Recirculation Defrost)

**NOTE:** Dimensions in [ ] are millimeters

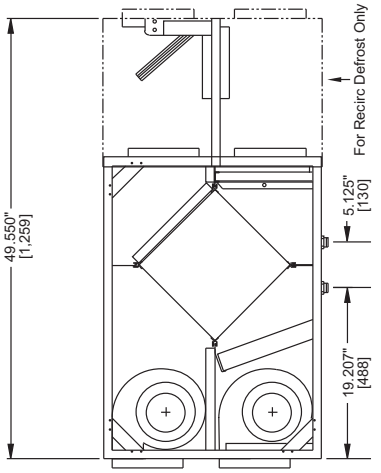
**1200i *(with Recirculation Defrost)***

| | |
|---|---|
| POLY CORE | 247 LBS [112 kg] |
| ALUMINUM CORE | 257 LBS [117 kg] |
| HM CORE | 264 LBS [120 kg] |

| CONNECTION TABLE | CONNECTION SIZES |
|---|---|
| Ⓐ Line voltage in | 14 gauge wire nut |
| Ⓑ Condensate drain fitting (2x) | 3/4" mpt |

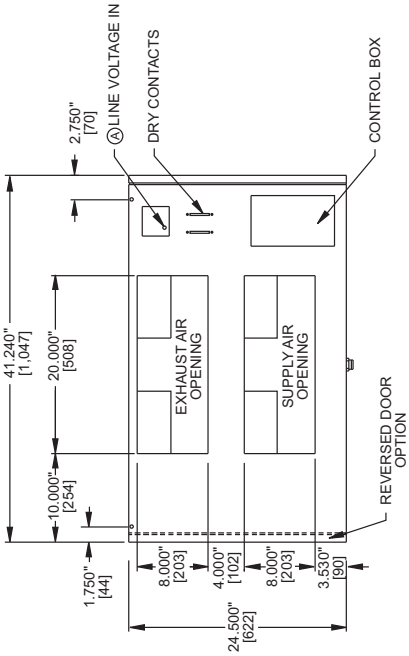



RIGHT VIEW

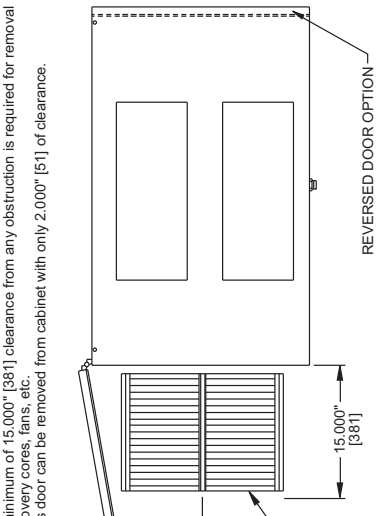



**NOTE:**
For units with the reversed door option, interior components will appear as a mirror image of the above diagram.

FRONT VIEW

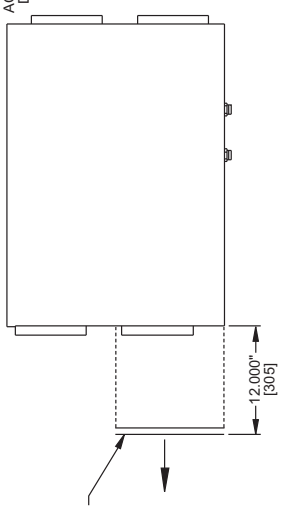



LEFT VIEW



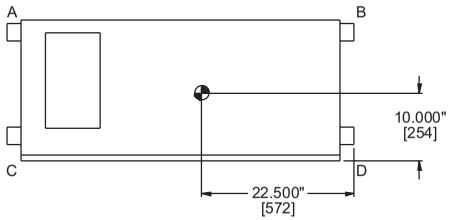

**NOTE:** A minimum of 15.000" [381] clearance from any obstruction is required for removal of heat recovery cores, fans, etc.
The access door can be removed from cabinet with only 2.000" [51] of clearance.

RIGHT VIEW




**NOTE:** A minimum of 12.000" [305] clearance from any obstruction is required for removal of the control box.

FRONT VIEW




TOP VIEW

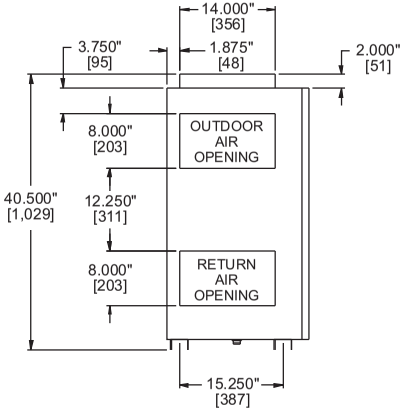
**NOTES:** Dimensions in [ ] are millimeters

Center of gravity

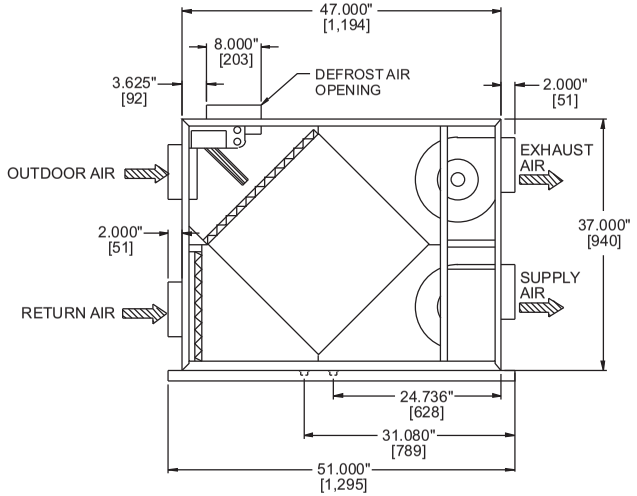
Direction of airflow

| HRV700i | | |
|---|---|---|
| PTS | LBS | Kg |
| A | 34 | 15 |
| B | 67 | 30 |
| C | 36 | 16 |
| D | 74 | 34 |
| TOTAL | 211 | 95 |

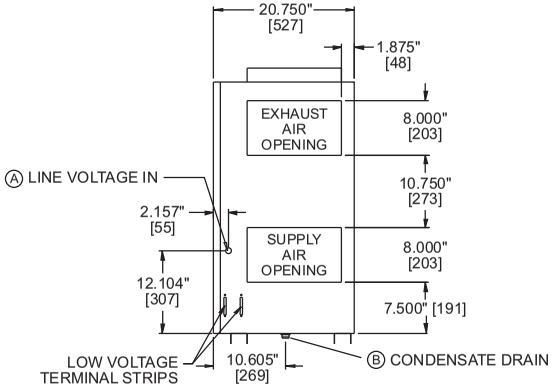
| CONNECTION TABLE | | |
|---|---|---|
| | | CONNECTION SIZES |
| Ⓐ | Line voltage in | 14 gauge wire nut |
| Ⓑ | Condensate drain fitting (2x) | 3/4" mpt |




LEFT VIEW



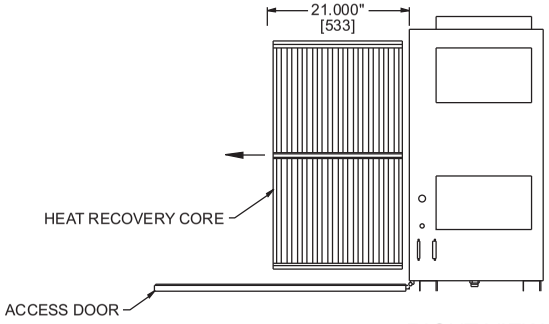

FRONT VIEW




**NOTE:** A minimum of 12.000" [305] clearance from any obstruction is required for power hook-up, low voltage remote connection and control panel access.

RIGHT VIEW

**NOTE:** A minimum of 21.000" [533] clearance from any obstruction is required for removal of heat recovery cores, fans and control box access. The access door can be removed from cabinet with only 2.000" [51] of clearance.



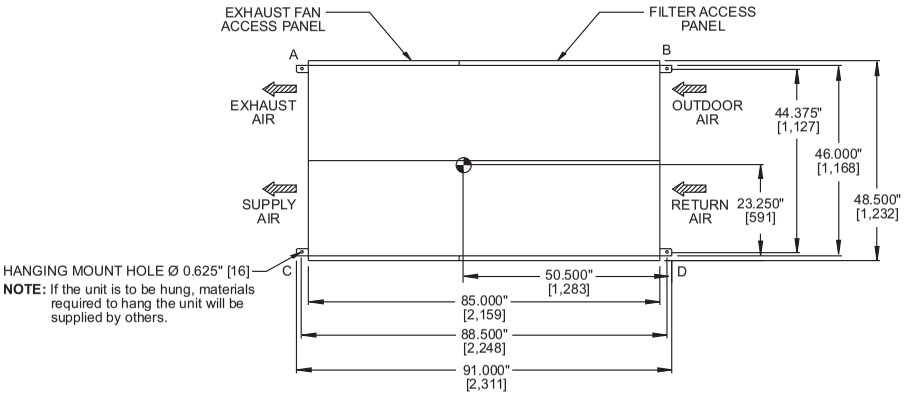

RIGHT VIEW

**NOTES:**
Dimensions in [ ] are millimeters
Center of gravity
Direction of airflow

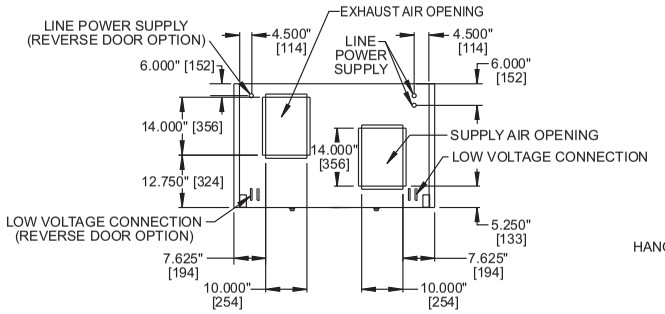
**HRV2000i**

| POLY CORE | | | ALUMINUM CORE | | | HM CORE | | |
|---|---|---|---|---|---|---|---|---|
| PTS | LBS | Kg | PTS | LBS | Kg | PTS | LBS | Kg |
| A | 189 | 86 | A | 197 | 90 | A | 197 | 90 |
| B | 147 | 67 | B | 153 | 70 | B | 153 | 70 |
| C | 203 | 92 | C | 212 | 96 | C | 212 | 96 |
| D | 161 | 73 | D | 168 | 76 | D | 168 | 76 |
| TOTAL | 700 | 318 | TOTAL | 730 | 332 | TOTAL | 730 | 332 |

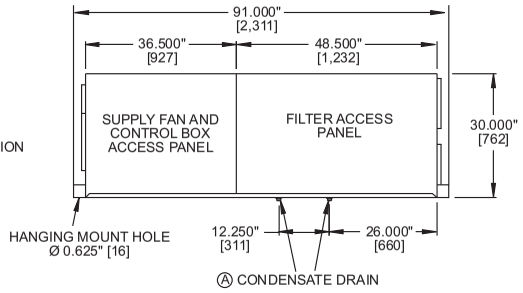
| CONNECTION TABLE | | |
|---|---|---|
| | | CONNECTION SIZE |
| Ⓐ | Condensate drain fitting (4x) | 3/4" NPT |



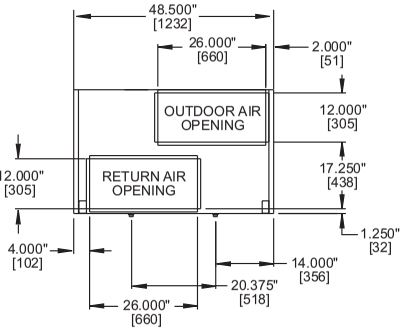

TOP VIEW




LEFT VIEW



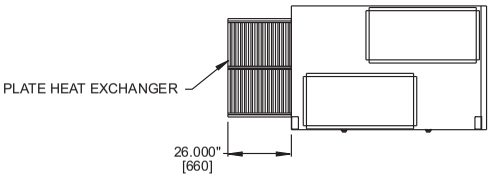

FRONT VIEW



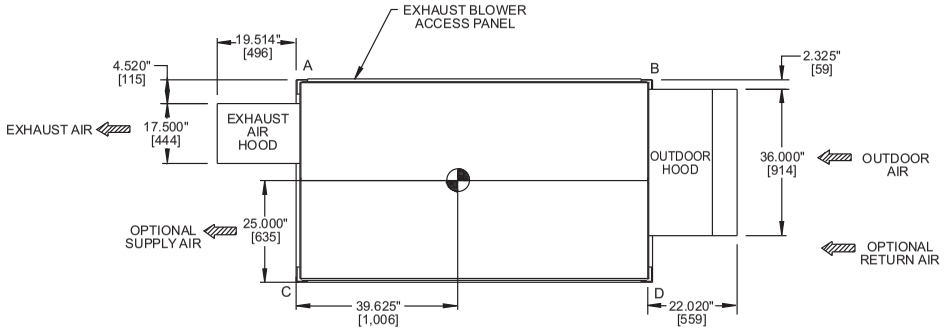

RIGHT VIEW

**NOTE:** A minimum of 12.000" [305] clearance from any obstruction is required for power hook-up, low voltage remote connection and control panel access.

**NOTE:** A minimum of 26.000" [660] clearance from any obstruction is required for removal of plate heat exchangers, fans and control box access.




RIGHT VIEW




TOP VIEW

**NOTES:**

Dimensions in [ ] are millimeters

Center of gravity

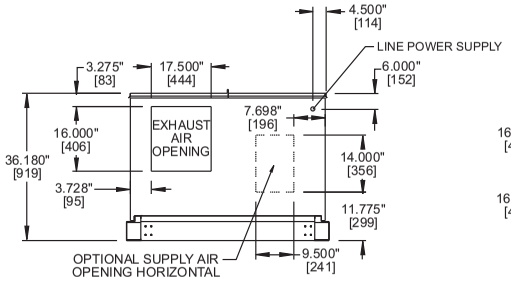
Direction of airflow

On vertical discharge units, ductwork is to be attached to accessory roofcurb only. Horizontal discharge units, field supplied flanges to be attached to horizontal discharge openings, and ductwork to be attached to the flanges.

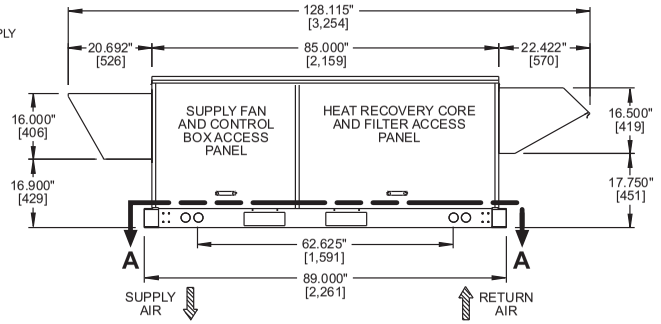
**HRV2000e**

| POLY CORE | | | ALUMINUM CORE | | | HM CORE | | |
|---|---|---|---|---|---|---|---|---|
| PTS | LBS | Kg | PTS | LBS | Kg | PTS | LBS | Kg |
| A | 204 | 93 | A | 213 | 97 | A | 213 | 97 |
| B | 161 | 73 | B | 167 | 76 | B | 167 | 76 |
| C | 204 | 93 | C | 213 | 97 | C | 213 | 97 |
| D | 161 | 73 | D | 167 | 76 | D | 167 | 76 |
| TOTAL | 730 | 332 | TOTAL | 760 | 346 | TOTAL | 760 | 346 |

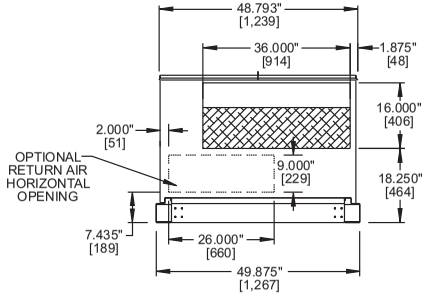
| CONNECTION TABLE | | |
|---|---|---|
| | | CONNECTION SIZE |
| Ⓐ | Condensate drain fitting (4x) | 3/4" NPT |



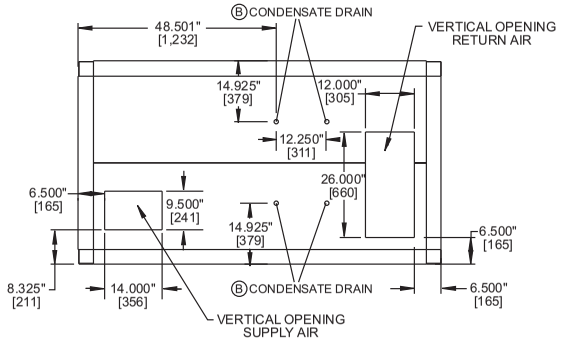

LEFT VIEW




FRONT VIEW

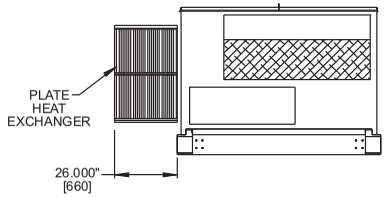



RIGHT VIEW



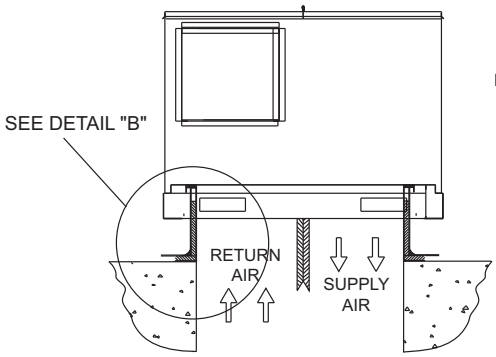

SECTION VIEW AA

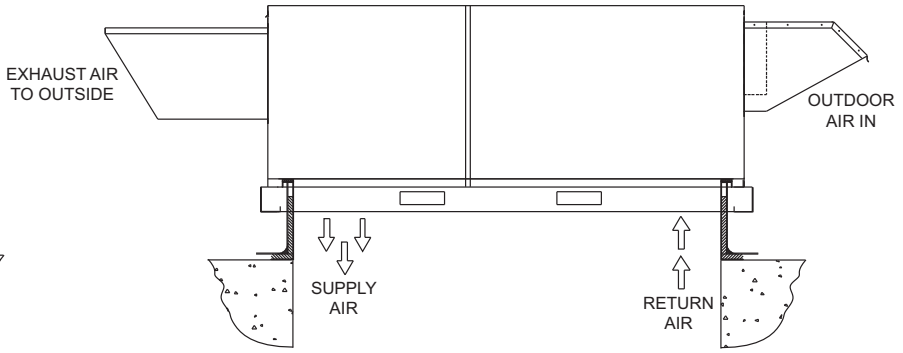
**NOTE:** A minimum of 26" [660] clearance from any obstruction is required for removal of plate heat exchangers, fans, filters and control box access.




RIGHT VIEW

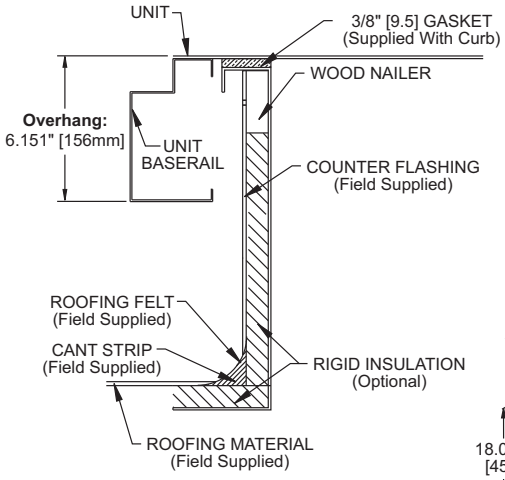
## HRV2000e

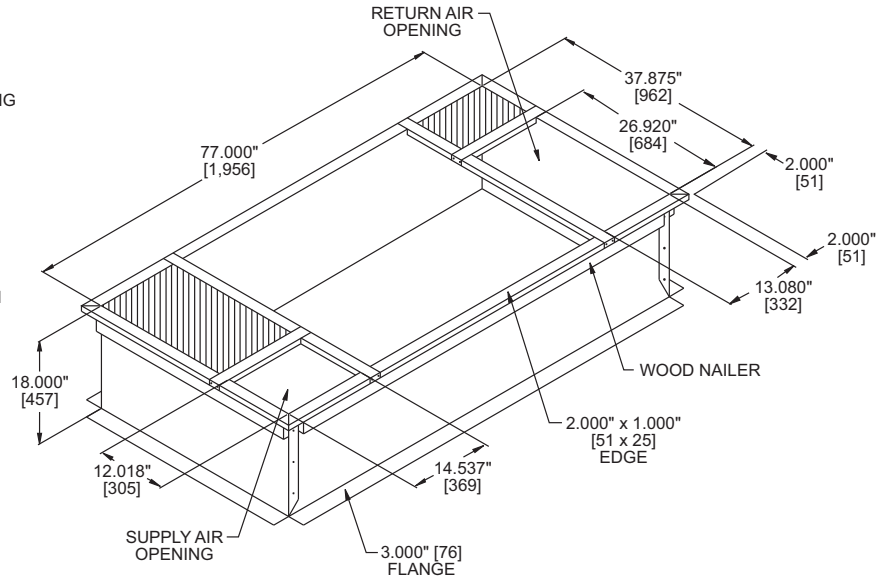


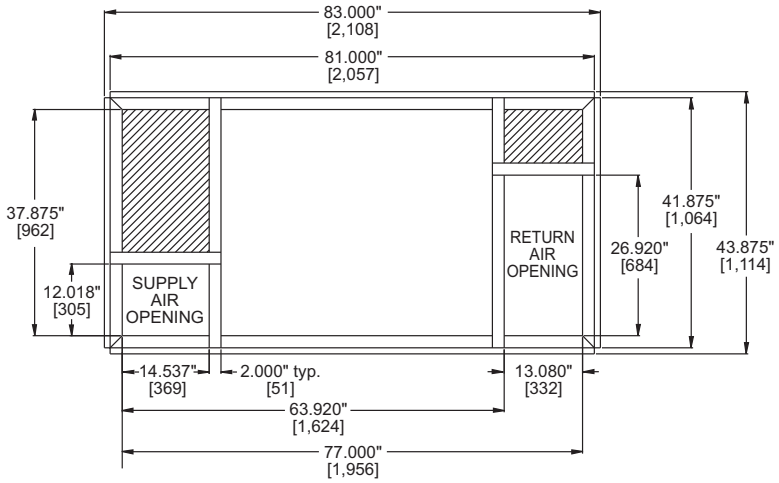

**NOTE:** Dimensions in [ ] are millimeters

### DETAIL "B"




### TOP VIEW OF CURB



## ODP MOTOR MEDIUM EFFICIENCY

| HRV600i, HRV700i, HRV1200i | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Blower Motor Specifications | | | Unit Specifications | | | |
| | HP | Motor Voltage | Motor FLA | Unit Voltage | MCA | MOP | Unit FLA |
| HRV600i | 1/4 | 120/1/60 | 3.8 | 120V | 9.5 | 12 | 8.6 |
| HRV700i | 1/6 | 120/1/60 | 2.5 | 120V | 6.6 | 9 | 6.0 |
| HRV1200i | 1/3 | 120/1/60 | 5.9 | 120V | 14.3 | 20 | 12.8 |

| Blower Motor Full Load Amperage (FLA) HRV2000i/e | | | | | | |
|---|---|---|---|---|---|---|
| HP | VOLTAGE | | | | | |
| | 208/1/60 | 230/1/60 | 208/3/60 | 230/3/60 | 460/3/60 | 575/3/60 |
| 1/2 | 4.5 | 4.0 | 1.8 | 2.2 | 1.1 | 0.9 |
| 3/4 | 5.4 | 6.0 | 2.7 | 2.7 | 1.4 | 1.1 |
| 1.0 | 6.8 | 7.0 | 3.4 | 3.4 | 1.7 | 1.4 |
| 1.5 | 10.2 | 10.2 | 5.0 | 5.0 | 2.5 | 2.0 |
| 2.0 | 14.0 | 14.0 | 6.4 | 6.0 | 3.0 | 2.4 |
| 3.0 | 17.8 | 17.0 | 10.6 | 10.6 | 4.8 | 3.4 |
| **Controls Full Load Amperage (FLA)** | | | | | | |
| Voltage | 208/1/60 | 230/1/60 | 208/3/60 | 230/3/60 | 460/3/60 | 575/3/60 |
| | 0.48 | 0.43 | 0.48 | 0.43 | 0.22 | 0.17 |

**NOTE:** The blower motor FLA values shown above are for **one motor only.**

**MCA Calculation**

1.25 x _____ FLA of larger HP motor or compressor = _____
1.25 x _____ Heater FLA = + _____
Sum of all other motors FLA = + _____
Wheel drive motor and standard controls FLA = + _____
Indirect gas heater FLA = + _____
**Calculated Total MCA =** _____

**MOP Calculation**

2.25 x _____ FLA of larger HP motor or compressor = _____
Electric heater FLA = + _____
Sum of all other motors FLA = + _____
Wheel drive motor and standard controls FLA = + _____
Indirect gas heater FLA = + _____
**Calculated Total MOP =** _____

**Actual MOP =** _____
*(from Standard Overcurrent Protection Chart)*

**NOTES**: MOP - Maximum overcurrent protection
MCA - Minimum current ampacity

### Finding the Actual MOP Value

From the calculated MOP value, select the next smallest value of protection from the *Standard Overcurrent Protection* chart below to get the Actual MOP value (maximum value of overcurrent device). **Note:** If this method leads to an Actual MOP value being smaller than the Calculated Total MCA, then a larger value must rather be selected, such that the Actual MOP is at least equal to the Calculated Total MCA.

**Standard Overcurrent Protection**

| | | |
|---|---|---|
| 3 | 40 | 250 |
| 4 | 45 | 300 |
| 5 | 50 | 350 |
| 6 | 60 | 400 |
| 7 | 70 | 450 |
| 8 | 80 | 500 |
| 9 | 90 | 600 |
| 10 | 100 | 650 |
| 12 | 110 | 700 |
| 15 | 125 | 750 |
| 20 | 150 | 800 |
| 25 | 175 | 850 |
| 30 | 200 | 900 |
| 35 | 225 | 1000 |

**WARNING**

All units equipped with electric post-heaters require two point power connections.

**CAUTION**

All electrical installations and wiring require correct wire gauge sizing and protection according to local building codes.

## Sequence Of Operation

Before start-up, check the unit for obstructive packaging, objects near or in blowers, dampers, etc. Once installation is complete, close the doors and check for correct unit operation as described in the Ventilation Control section below.

### Ventilation Control

Install the power to the unit as per local electrical codes and complete the following ventilation control modes to ensure proper unit operation.

#### Unoccupied Mode

*With Or Without Ventilation Call*

- Occupied timer/sensor connection open (unoccupied mode).
- Supply and exhaust fan motors are off.
- Recirculation defrost damper (if equipped) closes off the outside air opening.
- External hood dampers (if equipped) are closed.

#### Occupied Mode

*No Ventilation Call*

- Occupied timer/sensor connection closed (occupied mode).
- Supply and exhaust fan motors are off.
- Recirculation defrost damper (if equipped) closes off the outside air opening.
- External hood dampers (if equipped) are closed.

*Ventilation Call*

- Occupied timer/sensor connection closed (occupied mode).
- Recirculation defrost damper (if equipped) opens, allowing outside air to enter the unit.
- External hood dampers (if equipped) are open.
- Low speed connection closed (wire across low to common); supply and exhaust fan motors operate in low speed.
- High speed connection closed (wire across high to common); supply and exhaust fan motors operate in high speed.

**NOTE:** *If unit is equipped with single speed motors, motors will operate on a call for either low or high speed ventilation.*

#### Fan Interlock Contact

When connecting an HRV to the existing ductwork system of an air handler, typically the air handler should be running whenever the ventilator is running. To achieve this combination, there is a set of open contacts (labeled "FF") on the microprocessor board which close when the ventilator is running. Please refer to the wiring schematic for the exact location of these contacts.

## HRV Control Wiring

A low voltage remote terminal strip interface is provided on all units to allow interconnection of field wired controls. Depending on the unit configuration, the low voltage remote wiring terminal strips are either located on the exterior of the unit or inside the unit on the control box. All field installed low voltage wiring must be Class II and connected according to local codes. Excluding the Wall Control terminals, all terminals are 24 VAC or dry contact control.

**NOTE:** *Refer to unit installation and operations manual for field wiring to terminal strips of optional accessories.*

#### Terminal Connections

*Wall Control (Optional)*

- Requires a 4-wire LVT 24 gauge (or equivalent); remote wall control runs on 12 VDC.

*Occupied (or Unoccupied) Timer/Sensor*

- Requires dry contact; considered the "master control" for the unit.

*Voltage - 24 VAC*

- Provides 24 VAC, 40 VA for powering of accessories or field wiring devices.

*Remote Fan Control (LOW, COMMON, HIGH)*

- Requires dry contact; contact closure across LOW-COM terminals engage low speed fan operation; contact closure across HIGH-COM terminals engage high speed fan (if equipped).

*Dirty Filter Indicator (Optional)*

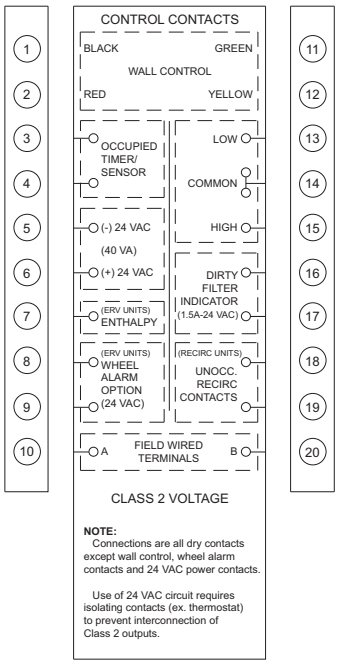
- Terminals used for interconnection of dirty filter sensor and light indicator (optional).

*Unocc. Recirc Controls (Unoccupied Recirculation Contacts, Recirculation Defrost Units Only)*

- Requires 24 VAC; places unit in recirculation ventilation mode allowing recirculation of air during unoccupied mode.

*Field Wired Terminals*

- Used for field connecting of field supplied controls.




***Terminal Connections Diagram***

### Wall Control

Two types of remote wall controls are available:

1. *Standard Wall Control:* analog control with slide fan speed switch and dehumidistat adjustment.
2. *Xtra Wall Control:* digital control with push buttons for fan mode selection, dehumidistat control and maintenance indicator.

The remote wall controls work with the integrated electronic controls within the unit to control ventilation sequences. Both wall controls listed above have different features and require 4-wire connection to the unit as indicated in the Terminal Connections section. Without a wall control, remote fan control (as explained in Terminal Connections) must be completed to operate the fans.

**CAUTION:** *Do not use a wall control and remote fan switch (Remote Fan Control terminals) at the same time. Damage to the unit may occur.*

**NOTE:** *All control accessories (ex. Night setback timer, $CO_2$ controller or smoke detector) intended to provide a contact closure for occupancy control across terminals 3 and 4 cannot be used in conjunction with the Xtra wall control. If a wall control is required in addition to any of these options, only the Standard wall control may be used. Without these options, a factory installed jumper across terminals 3 and 4 must be installed.*

### Occupied Timer/Sensor

Occupancy control is achieved by connection to the Occupied Timer/Sensor terminals. These terminals require a dry contact which could be provided by various controls such as a timer, light sensor, occupancy sensor, building management system or other. **The unit will not operate unless these contacts are closed!!**

**NOTE:** *All control accessories (ex. Night setback timer, $CO_2$ controller or smoke detector) intended to provide a contact closure for occupancy control across terminals 3 and 4 cannot be used in conjunction with the Xtra wall control. If a wall control is required in addition to any of these options, only the Standard wall control may be used. Without these options, a factory installed jumper across terminals 3 and 4 must be installed.*

**IMC Code:** *In order to meet International Mechanical Code (IMC) Section 606, the smoke detector sensor should be connected to the Occupied Timer/Sensor contacts.*

### Remote Fan Control *(Low, Common, High)*

Remote fan control can be achieved by connecting dry contact controls to the terminal interface at terminals labeled: LOW, COMMON and HIGH. Placing a jumper across the LOW and COM terminals will put the unit in low speed ventilation or placing a jumper across the HIGH and COM terminals will put the unit into high speed (if equipped with two speed motors). **DO NOT** jumper all three terminals together. These controls could also be the following: SPDT switch, dehumidistat, $CO_2$ sensor, light sensor, heat sensor, timer, building management system, etc. The factory supplied jumper must be in place across the Occupied Timer/Sensor terminals.

**CAUTION:** *Do not use a wall control and remote fan switch (Remote Fan Control terminals) at the same time. Damage to the unit may occur.*

### Dirty Filter Sensor

Units can be equipped with a dirty filter sensor which monitors the pressure across the filters and closes the contacts when the filters become restricted with dirt. The terminals labeled "Dirty Filter Indicator" may be used for interconnection of the sensors and indicator light (option).

### Unocc. Recirc Contacts *(Unoccupied Recirculation Contacts, Recirculation Defrost Units Only)*

On HRV units equipped with recirculation defrost controls, unoccupied recirculation ventilation modes can be achieved by connection to the Unoccupied Recirculation terminals. Providing 24 VAC to these terminals will cause the unit to go into a 'recirculation mode' in which the supply fan runs on high speed and the exhaust fan remains off.

**NOTE:** *Although these contacts are intended for use during unoccupied periods, they are still active during an occupied condition. Therefore, the 24 VAC signal should be applied such that it is disabled during occupied periods, preventing the unit from going into a recirculation ventilation condition unnecessarily.*

### $CO_2$ Ventilation Control *(Optional Accessory)*

HRV units can be controlled by using $CO_2$ levels to determine the ventilation speed of the unit. To obtain this type of control, the $CO_2$ controller is connected to the Remote Fan Control terminals - LOW, COMMON and HIGH. As the $CO_2$ levels exceed acceptable limits, the dry contact across the HIGH and COM terminals will close, engaging high speed fan ventilation.

### Smoke Detector *(Optional Accessory)*

HRV units can be controlled by using a duct-mounted smoke detector which will monitor the air when passing through the duct system into the unit. When sufficient smoke is detected, an alarm condition is activated. By connecting the Occupied Timer/Sensor contacts to the normally closed (NC) alarm auxiliary contacts on the duct sensor, an alarm condition will open the auxiliary contact and stop operation of the unit.

**NOTE:** *The smoke detector should be located in a normally occupied area of premises. It is recommended for compliance to NFPA-90A and IMC Code 606.*

## Frost Control

The requirement for frost control is based upon the outdoor air temperature and humidity content of the return air. In areas where the winter outdoor air condition falls below 23°F [-5°C] or the return air relative humidity is above 20%, frost control is probably required. To verify the necessity of frost control, use the Venmar Select™ Software or contact a Representative. A large imbalance of airflows may alter these guidelines.

### Non Defrost

No frost control is required in areas where the winter outdoor air condition stays above 23°F [-5°C] and the return air humidity level is below 20%. Venmar CES wall controls may be used on units with the *"Non defrost with wall control compatibility"* option. Venmar CES wall controls **may not be used** on units ordered with the *"Non defrost without wall control compatibility"* option.

### Recirculation Defrost

Recirculation defrost is a temperature initiated time-based cycle which will de-energize the exhaust fan, close the outdoor air damper and circulate return air through the flat plate heat exchanger. Recirculation defrost will run approximately 15% to 25% of the time, only when the outdoor air temperature falls below 23°F [-5°C]. Please note that if the indoor relative humidity is expected to be 20% or less, contact the factory or use the Venmar Select™ Software as frost control may not be required at all.

### Exhaust Only Defrost

Exhaust only defrost is a temperature initiated time-based cycle which will de-energize the supply fan, close the outdoor air damper and exhaust return air through the exhaust side of the flat plate heat exchanger. Exhaust only defrost will run approximately 15% to 25% of the time, only when the outdoor air temperature falls below 23°F [-5°C]. Please note that if indoor relative humidity is expected to be 20% or less, contact the factory or use the Venmar Select™ Software as frost control may not be required at all.

**Recirculation and Exhaust Only Defrost Table**

| HRV Model | Stage | Type of Defrost | Initiate Temperature | | Ventilation Time (Minutes) Defrost Time/Run Time | |
|---|---|---|---|---|---|---|
| | | | | | Standard | Extended |
| **600i** | 1 | R/E | 23°F | -5°C | 12/60 | N/A |
| **1200i** | 2 | R/E | 5°F | -15°C | 12/24 | N/A |
| | 3 | R/E | -21°F | -30°C | 12/12 | N/A |
| **700i** | 1 | R | 23°F | -5°C | 6/60 | 10/28 |
| | 2 | R | 5°F | -15°C | 6/32 | 10/28 |
| | 3 | R | -21°F | -30°C | 6/19 | 10/15 |
| **2000e** | 1 | R/E | 23°F | -5°C | 6/60 | 10/28 |
| **2000i** | 2 | R/E | 5°F | -15°C | 6/32 | 10/28 |
| | 3 | R/E | -21°F | -30°C | 6/19 | 10/15 |

**Legend:**
R - Recirculation
E - Exhaust Only
N/A - Not Available

### Duct-Mounted Preheat Frost Prevention

Preheat frost prevention allows for continuous ventilation however, it requires a minimum entering air temperature into the flat plate heat exchanger of 23°F [-5°C]. For sizing, please use applicable ASHRAE formulas or contact a Venmar CES Representative for available duct-mountable options.

**Duct-Mounted Preheat Frost Prevention Table**

| HRV Model | Stage | Base Airflow | Initiate Temperature | | kW Required |
|---|---|---|---|---|---|
| **600i** | N/R | 600 cfm | 23°F | -5°C | N/R |
| | 1 | | 5°F | -15°C | 3.0 |
| | 2 | | -13°F | -25°C | 6.0 |
| | 4 | | -40°F | -40°C | 12.0 |
| **700i** | N/R | 700 cfm | 23°F | -5°C | N/R |
| | 2 | | 5°F | -15°C | 6.0 |
| | 3 | | -13°F | -25°C | 9.0 |
| | 3 | | -40°F | -40°C | 15.0 |
| **1200i** | N/R | 1200 cfm | 23°F | -5°C | N/R |
| | 2 | | 5°F | -15°C | 7.5 |
| | 3 | | -13°F | -25°C | 15.0 |
| | 4 | | -40°F | -40°C | 24.0 |
| **2000i** | N/R | 2000 cfm | 23°F | -5°C | N/R |
| | 4 | | 5°F | -15°C | 12.0 |
| | 4 | | -13°F | -25°C | 24.0 |
| | 4 | | -40°F | -40°C | 40.0 |

**Legend:**
N/R - Not Required

## Motors, Voltage and Speeds

All electric motors, both fractional and standard HP, have overload protection through either internally installed auto overloads and wired thermal protection or electrical overload contactor combinations. Standard HP motors meet the Energy Policy Act (EPACT) of the United States and Canada's Energy Efficiency Regulation (EER).

All HRVs have numerous voltage options to choose from. Please see the Physical Data - Nomenclature Options chart on page 3 for specific voltage availability.

Standard belt driven units come in one speed with optional two speed. Direct drive units have two speeds available.

## Energy Recovery

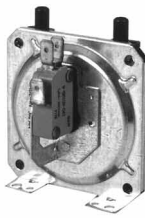
Units may be equipped with aluminum or polypropylene flat plate heat exchangers (both capable of sensible energy transfer) or HM (Heat Moisture) flat plate heat exchangers (capable of sensible and latent energy transfer). Aluminum heat exchangers are flame retardant (conforming to NFPA-90A) and polypropylene heat exchangers resist oxidation and therefore are ideal for corrosive applications.

## Internal Protection

Single wall construction consists of a galvanized outer metal panel and R4 foil face insulation on all interior and exterior walls and floor.

Double wall construction consists of a galvanized outer metal panel, R4 foil face insulation and a galvanized inner metal liner on all interior and exterior walls and floor. Double wall construction eliminates the concern of punctures occurring in the insulation, which can cause microbial growth in the insulation. This option makes it easy to clean the interior of the unit.

## Dirty Filter Sensor



The dirty filter sensor option will monitor the pressure across the filters and will close contacts when dirt restricts the airflow to the setpoint. The connections at the external terminal interface will close and can be used to control a remote light or alarm to signal dirty filters.

The sensor has the following features:

- Pressure setpoint is factory set.
- Polyester film diaphragm responds to pressure changes as low as 2.5mm WC.
- Equipped with male quick connect terminals.
- Connection ports accept standard .2" [5mm] rubber or plastic tubing.
- In the vertical plane the mounting orientation is free.

**Specifications:**

*Electrical Rating:*
1.5 Amp. 220/240 VAC (resistive)

*Ambient Temperature Range:*
14°F to 158°F [-10°C to +70°C]

*Ambient Humidity Range:*
5 - 90% RH at 104°F [40°C] non-condensing

*Switch Action:* SPDT

*Terminals:* 1/4" [6mm] quick connect

*Pipe Connection:* 1/4" [6mm] outside diameter

*Mounting:* Within 10% of vertical

*Material:*
Diaphragm - polyester film
Switch mounting plate - zinc-coated steel
Housing - PET

*Maximum Sustained Pressure:* 60mm WC

## External Finish - Paint

The following options for external finish are available for certain Venmar CES heat recovery ventilator units:

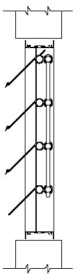
- galvanized metal, non painted.
- baked-on, polyester, grey or white pre-painted surface on galvanized metal.
- corrosion resistant package offers powder coated surface on the exterior and interior of the galvanized steel cabinet to prevent corrosion.

Not all external finish options are available for all units. See the Physical Data - Nomenclature Options chart on page 3 for specific unit information.

## Dampers

Damper options are available in pressure open/gravity closed, power open/power closed or power open/spring closed.

### Backdraft Damper

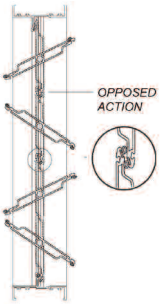


Standard backdraft dampers have the following features:

- All aluminum construction provides a long, rust-free operational life.
- Blades are extruded aluminum profiles and securely linked via a large diameter aluminum linkage rod.
- Silicone seals are provided as standard to ensure sealing longevity and remain flexible down to -40°F/°C.
- Self-lubricating celcon bearings ensure a maintenance-free and long-cycle life.
- Backdraft dampers are designed for operation in temperatures ranging between -40°F and 212°F [-40°C and 100°C].
- Air leakage through a 24" x 24" [610 x 610mm] backdraft damper does not exceed 20 cfm/sq.ft. against 1" w.g. [0.25kpa] differential static pressure at standard air.

### Non Insulated Damper

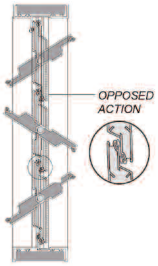
Non-insulated dampers have the following features:




- Extruded aluminum blades and frame contribute to a long, rust-free operational life.
- Blade gaskets are extruded EPDM elastomer. Frame seals are extruded TPE thermoplastic.
- Seals provide outstanding dynamic fatigue resistance that ensures sealing longevity.
- Seals provide excellent resistance to weathering, compression set and heat.
- Bearings are comprised of a celcon inner bearing fixed to a 7/16" [11mm] aluminum hexagon blade pin rotating within a polycarbonate outer bearing inserted in the frame.
- Dual bearing system is self-sealing, self-lubricating and non-absorbent.
- Dampers are designed for operation in temperatures ranging between -40°F and 212°F [-40°C and 100°C].
- Air leakage through a 48" x 48" [1220 x 1220mm] damper does not exceed 10.3 cfm/sq.ft. against 4" w.g. [1kpa] differential static pressure at standard air.
- Pressure drop of a fully open 48" x 48" [1220 x 1220mm] damper does not exceed 0.02" w.g. [0.005kpa] at 1000 fpm [5.08m/s].

### Insulated Damper

Insulated dampers have the following features:




- Extruded aluminum blades and frame contribute to a long, rust-free operational life.
- Thermally insulated blades are constructed using an aluminum shell, injected with polyurethane foam.
- Insulated blades have an insulating factor of R-2.29 and a temperature index of 55.
- Blade gaskets are extruded EPDM elastomer. Frame seals are extruded TPE thermoplastic.
- Non-metallic blade and side seals minimize thermal bridging across blade surfaces.
- Seals provide outstanding dynamic fatigue resistance that ensures sealing longevity.
- Bearings are comprised of a celcon inner bearing fixed to a 7/16" [11mm] aluminum hexagon blade pin rotating within a polycarbonate outer bearing inserted in the frame.
- Dual bearing system is self-sealing, self-lubricating and non-absorbent.
- Dampers are designed for operation in temperatures ranging between -40°F and 212°F [-40°C and 100°C].
- Air leakage through a 48" x 48" [1220 x 1220mm] damper does not exceed 4.12 cfm/sq.ft. against 4" w.g. [1kpa] differential static pressure at standard air.
- Pressure drop of a fully open 48" x 48" [1220 x 1220mm] damper does not exceed 0.03" w.g. [0.0075kpa] at 1000 fpm [5.08m/s].

## Door Fasteners

*HRV600i, HRV700i and HRV1200i*

Standard door access consists of quick release draw latches with compression pin hinges for full door removal.

*HRV2000i/e*

Standard filter door access consists of formed metal handles and screws that require a hex driver to remove them. Deluxe filter door access consists of molded plastic handles as well as quarter-turn door fastener upgrade.

## External Disconnect

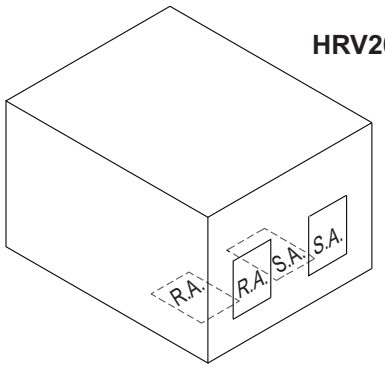
All disconnects are sized appropriately for each HRV model, making the installation easier for the Mechanical/Electrical contractor. The disconnects can be ordered fused or non-fused. **Disconnects must be field installed.**

## Hoods

All rooftop HRVs are available with outside air (O.A.) intake hoods and exhaust air (E.A.) outlet hoods. The O.A. hoods help to keep contaminants from entering into the outdoor airstream through the use of a 1/2" [13mm] thick aluminum mesh filter. The E.A. hoods help the exhaust fan with static regain for better airflow performance. The hoods also help keep debris and small animals from entering into the HRV unit. All Venmar CES hoods are weather and water resistant which eliminates the risk of water pooling inside the unit.

## Fan Discharge/Return Air Options

**HRV2000e ONLY**




S.A. - Supply Air Opening
R.A. - Return Air Opening

For more detailed dimensions refer to dimensional data, pages 12 to 18.

## Filtration

Filters are recommended for both sides of the flat plate heat exchanger to ensure optimum energy recovery performance. Venmar CES offers several filtration options to suit different operating environment conditions.

*HRV600i, HRV700i and HRV1200i*

Venmar CES uses only the highest quality of washable foam filters (20ppm) and disposable Medium Efficiency Filters (MEF with 35% Dust Spot Efficiency) as the standard filter options.

*HRV2000i/e*

Venmar CES uses only the highest quality of disposable filters. Medium Efficiency Filters (MEF with 35% Dust Spot Efficiency) and High Efficiency supply Filters (HEF with 80 - 85% Dust Spot Efficiency) as the standard filter options.

## Access Doors

### Standard Door Access

*HRV600i, HRV700i and HRV1200i*

Standard door access consists of a single removable panel that allows direct access to all internal components. The airflow direction is left to right for the HRV700i and right to left for the HRV600i and HRV1200i.

*HRV2000i/e*

Standard door access consists of four removable panels that allow direct access to all internal components. If it is desired to put the unit up against a wall, this option allows the exhaust side of the unit to have 0" clearance while still maintaining access to all components. The flow of air would be right to left looking at the accessible side.

It is recommended to always maintain minimum clearances (see unit dimensional drawing) to allow good accessibility. Placing the unit directly against a wall limits access to the far fan, belts and pulleys.

### Reverse Door Access

*HRV600i and HRV1200i*

Reverse door access consists of the standard door access features but reverses the direction of flow for the airstreams. The flow changes from left-hand-flow to right-hand-flow with the reverse door access. On the HRV600i, the control box position remains the same as a standard unit whereas on the HRV1200i the control box moves to the front (door side) of the unit.

*HRV2000i*

The reverse door access option allows placement of the supply side of the unit against a wall with 0" clearance while still maintaining access to all components. The flow of air would be left to right looking at the accessible side.

It is recommended to always maintain minimum clearances (see unit dimensional drawing) to allow good accessibility. Placing the unit directly against a wall limits access to the far fan, belts and pulleys.

## Reduced Low Speed *(HRV600i/1200i only)*

On HRV600i/1200i units, control boxes may be equipped with an autotransformer to allow for two speed motor operation. As an option, the unit can be factory wired for either standard or reduced low speed which increases the cfm spread between the high and low speed. Please refer to the Airflow Performance Data chart for the required speed.

**Venmar CES Inc.**
Saskatoon, SK  Canada

***www.venmarces.com***

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